# Analysis of the F-4E Phantom

**AME 4243 - Propulsion Systems**

By

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# ABSTRACT

In this paper, I analyze the J79-GE-17 engine and its applications to the F-4E Phantom II jet fighter. I analyzed the engine at three different turbine inlet temperatures: 1500,1600, and 1700. I used four different Mach values when running my calculations: Mach 0.5, Mach 0.85, Mach 1, and Mach 1.5. These numbers were chosen in part at random but also such that I could analyze its performance below Mach 1 and above Mach 1.

I calculated the specific thrust, the thrust-specific fuel consumption, thermal efficiency, propulsion efficiency, and total efficiency at each Mach value and each total temperature. I then graphed these values and compared them with one another to determine the engine's optimal operating range.

I also calculated the inlet area for the engine's total temperature values at Mach 1. I did not choose values at each speed since the inlet area does not change. My goal was to obtain an average area to help maximize efficiencies. From there I gathered the information and provided an overall explanation of why I believe that the engine is excellent for a fighter jet, traveling above Mach 1 with a total turbine inlet temperature of 1600 or 1700.

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# NOMENCLATURE

$a$ - speed of sound $C_{pb}$ - specific heat at constant pressure of air in the combustor

$C_{pc}$ - specific heat at constant pressure of air in the compressor

$F$ - Thrust

$F_{rq}$ - Thrust required

$f$ - Fuel-to-air mass flow rate ratio

$\frac{F}{\dot{m}}$ - specific thrust

$\frac{F}{\dot{m}_c}$ - core specific thrust

$\frac{L}{D}$ - Lift to Drag ratio

$\dot{m}$ - total mass flow rate

$\dot{m}_c$ - total mass flow rate through the core

$P_{av}$ - power available

$P_{rq}$ - power required

$RF$ - range factor

$S$ - range

$TSFC$ - thrust specific fuel consumption

$T$ - static temperature (K)

$T_{t3}$ - total temperature in the compressor

$T_{t3}$ - total temperature in the combustor

$v_0$ - airflow velocity entering the engine

$v_9$ - airflow velocity exiting the engine

$w_i$ - initial weight of the aircraft

$w_f$ - final weight of the aircraft

$\eta_{combustor}$ - combustor efficiency

$\eta_{compressor}$ - compressor efficiency

$\eta_{diffuser}$ - diffuser efficiency

$\eta_{fan}$ - fan efficiency

$\eta_{fn}$ - fan nozzle efficiency

$\eta_{core}$ - core engine efficiency

$\eta_{overall}$ - overall efficiency

$\eta_{propulsive}$ - propulsive efficiency

$\eta_{turbine}$ - turbine efficiency

$\eta_{thermal}$ - thermal efficiency

# Chapter 1

# INTRODUCTION

I analyzed the General Electric J79 Turbojet engines, specifically used on the F-4E phantom. The analysis was completed in four parts. In the first part, I documented the plane's dimensions, empty weight, loaded weight, wing span, wing length, fuel capacity, turbine inlet temperature, airflow, overall pressure ratio, and other values needed in future sections. I used four primary sources for this information: Elements of Propulsion[1], The F-4E manual[2], Exploring the Legacy of the F-4 Phantom[3], and Aerospaceweb[4] characteristics, propulsion system characteristics, and other relevant parameters needed in future sections of the analysis.

In the second part, I used the data from part 1 to calculate the thrust required, and the thrust available, and compared the two. I also calculated the power required, and the power available, and then compared those two. I then calculated the range of the F-4E and compared it with the documented ranges.

In the third part, I calculated the specific thrust, specific fuel consumption, and efficiencies as a function of the compressor pressure ratio for turbine inlet temperatures of 1500, 1600, and 1700. and for Mach values of 0.5, 0.85, 1.0, and 1.5.

Finally, I analyzed the calculations, data, and graphs that were generated in parts 1-3. I compiled this comprehensive report that includes an analysis of the engine, its performance, and its compatibility with propulsion with additional recommendations.

# Chapter 2

# THEORY

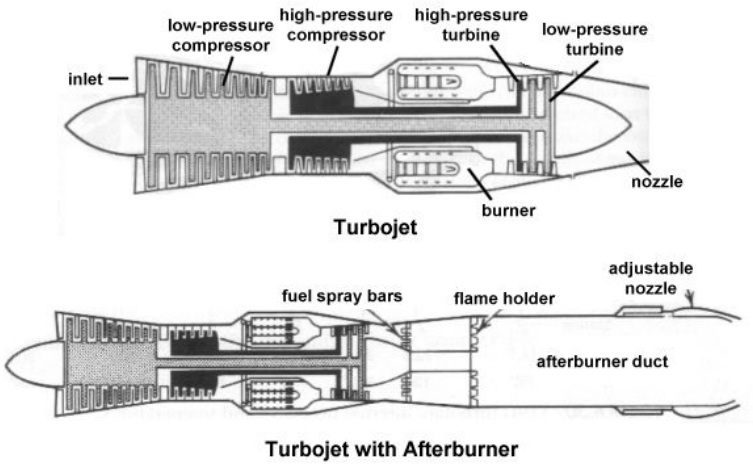


Figure 2.1: Turbojet

The F-4E Phantom II is a United States fighter jet. Speed and performance are the focal points of engine efficiency in fighters. The J79-GE-17 engine is a turbojet engine. Turbojets tend to have better performance than the turbofan engines. This is vital for military jets that will end up in combat and will need high-performance engines.

The turbojet uses a compressor, located towards the front of the engine, to compress ambient air increasing its pressure and temperature. It then uses fuel to combust the air inside the combustor increasing the temperature further. The air is then pushed through a turbine which runs the compressor.

"The J79 was the first engine to use variable stator vanes. Stators are a 'row' (circular rings) of stationary vanes that combine with a rotating rotor row of blades to form

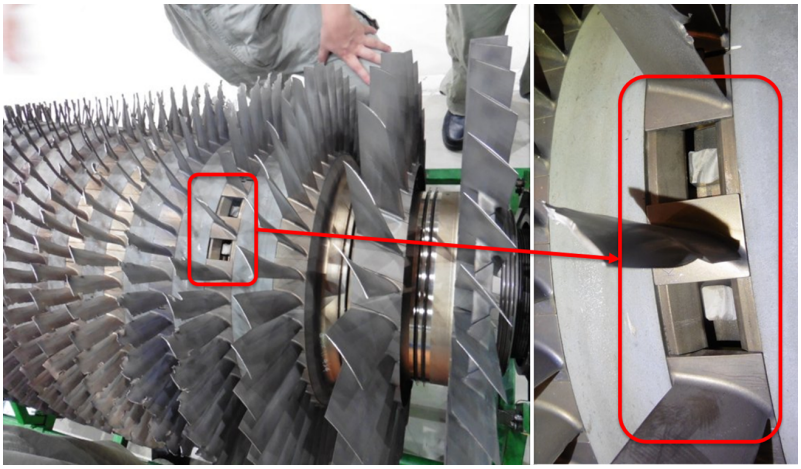

Figure 2.2: stator vanes

a state. In the front of the compressor, the J79 used seven rows of stators whose pitch angle was varied hydro-mechanically as a function of engine throttle position and flight conditions. The pitch angle (the angle between the axial direction and blade chord line) is varied in a way that significantly improves compressor efficiency at off-design operation and aids in the engine starting.[1]"

I theorize that the turbojet will be optimal for this specific type of jet. It will outperform the turbofan engine in terms of performance. A ramjet or rocket engine would not be realistic.

# Chapter 3

# PART 1

| F-4E Phantom | | | | |
|---|---|---|---|---|
| **Dimensions** | | | | |
| Length | 63 ft | 19.2 m | | |
| Wingspan | 38.62 ft | 11.77 m | | |
| Height | 16.46 ft | 5.02 m | | |
| Wing Area (ft^2),(m^2) | 530 ft^2 | 49.2 | | |
| **Weights** | | | | |
| Empty (Lb,Kg,N) | 30328 | 13757 | 134956.17 | |
| Normal Takeoff (Lb,Kg,N) | 41490 | 18818 | 184604.58 | |
| Max Takeoff (Lb,Kg,N) | 61795 lb | 28030 | 274974.3 | |
| Fuel Comacity (internal L), (external L), (internal m^3) | 7022 L | 5070 L | 7.002 | |
| May Payload | 16000 lb | 7257 kg | | |
| **Propulsion** | | | | |
| Power Plan | two GE J79-17A turbojets | | | |
| Thrust (lb/kN) | 35800 | 159.2 | | |
| Max Thrust (Klbf/KW) | 17.8 | 79.3 | | |
| Thrust -to- Weight Ratio | 0.86 loaded | 0.58 MTOW | | |
| SFC at max (lbm/hlbf) / (Kg/(kN*s)/(g/(kN*s) | 1.965 lbm | 0.56 | 55.66 | |
| Airflow | 170 lb/s | 77.1 kg/s | | |
| OPR | 13.5 | | | |
| TIT | 1210 F | 655 | | |
| **Performance** | | | | |
| Max Level Speed | 1430 mph | 2300 km/h | M=2.17 | at 36000 ft |
| | 905 mph | 1450 km/h | M=1.19 | at sea level |
| Initial Climb Rate | 28,000 ft | 8535 m/min | | |
| Service Ceiling | 58750 ft | 17,905m | | |
| Range | 1720 km | 3,185km | | |
| Service Ceiling | 18000 m | 60000 ft | | |
| Rate of Climb | 210 m/s | 41300 ft/min | | |
| Cruising Altitude (km) | 11 | The max level speed above is based on an altitude of 10.9km. I rounded to 11 in order to use table A2 | | |
| Taken from page 806 of Text Book | | | | |
| https://aerospaceweb.org/aircraft/fighter/f4/ | | | | |
| https://www.aerotime.aero/articles/f4-phantom-history-and-notable-features | | | | |

Table 3.1: Given Values

I primarily used the textbook "Elements of Propulsion" [1] and the websites https://aerospaceweb.org [4] and https://www.aerotime.aero [3] to gather the necessary data to begin. Appendix B on page 806 of Mattingly provided much of the data in the table above.

I used Appendix A Table A2 to get standard atmospheric conditions at the given cruising altitude of 11 km. Then I was able to calculate the pressure, temperature, density, and speed of sound. I also found the weight of Jet-A, the fuel used in the J79 engine, and calculated the weight of the fuel and landing weight based on 95% of fuel used.

| **Calculations** | | | |
|---|---|---|---|
| P/Pstd | 0.224 | | |
| T/Tstd | 0.7523 | | Table A2 cruising alt |
| Pstd | 101325 | | |
| Tstd | 288.15 | | |
| P | 22696.8 | | |
| T | 216.775245 | | |
| density | 0.3660908816 | density=P/(RT) | |
| Speed of Sound | 294.6129802 | | |
| Jet A (kg/m^3) | 808 | https://support.foreflight.com | |
| Fuel Weight (N) | 55501.21296 | | |
| Landing Weight | 222248.1477 | | |
| RFI | | | |

Table 3.2: Pressure, Temperature, density, a, Fuel

These calculations provided me with the necessary data needed for part two of the analysis. In part two I calculate the thrust and power of the engine.

# Chapter 4

# PART 2

For this analysis, I assumed drag coefficients from Table 1.4 in "Elements of Propulsion[1]."

| **Table 1.4 (page 43)** | | | |
|---|---|---|---|
| M0 | K1 | K2 | Cd0 |
| 0 | 0.2 | 0 | 0.012 |
| 0.8 | 0.2 | 0 | 0.012 |
| 1 | 0.2 | 0 | 0.0173 |
| 1.4 | 0.28 | 0 | 0.028 |
| 2 | 0.4 | 0 | 0.027 |

Table 4.1: Table 1.4

Using these values with the values obtained from Part 1, I calculated the thrust required, power required, and power available for Mach values ranging from 0 to 2.

| F-4E Phantom | | | | |
|---|---|---|---|---|
| **Dimensions** | | | | |
| Length | 63 ft | 19.2 m | | |
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| TIT | 1210 F | 655 | | |
| **Performance** | | | | |
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| Rate of Climb | 210 m/s | 41300 ft/min | | |
| Cruising Altitude (km) | 11 | The max level speed above is based on an altitude of 10.9km. I rounded to 11 in order to use table A2 | | |
| **Calculations** | | | | |
| P/Pstd | 0.224 | | | |
| T/Tstd | 0.7523 | | Table A2 cruising alt | |
| Pstd | 101325 | | | |
| Tstd | 288.15 | | | |
| P | 22690.8 | | | |
| T | 216.775245 | | | |
| density | 0.3669909816 | density=P/(RT) | | |
| Speed of Sound | 294.6129802 | | | |
| Jet A (kg/m^3) | 808 | https://support.foreflight.com/hc/en-us/articles/6297854155159-What-fuel-density-does-Weight-Balance-use-#:~:text=Jet%2DA%3A%206.73%20pounds%20per,100LL%3A%206.0%20pounds%20per%20gallon | | |
| Fuel Weight (N) | 55501.21296 | | | |
| Landing Weight | 222248.1477 | | | |
| BFI | | | | |
| Table 1.4 (page 43) | | | | |
| M0 | K1 | K2 | Cd0 | |
| 0 | 0.2 | 0 | 0.012 | |
| 0.8 | 0.2 | 0 | 0.012 | |
| 1 | 0.2 | 0 | 0.0173 | |
| 1.4 | 0.28 | 0 | 0.028 | |
| 2 | 0.4 | 0 | 0.027 | |

Taken from page 806 of Text Book
https://aerospaceweb.org/aircraft/fighter/f4/
https://www.aerotime.aero/articles/f4-phantom-history-and-notable-features

Table 4.2: F-4E Phantom II Part 2 Calculations

| Mach | Cd0 | k1 | V (m/s) | Cl | Cd | L/D | L | Thrust req (kN) | Thrust av (kN) | Power req (kW) | Power av (kW) | Range (Eq 1.43 on page 52) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| 0.1 | 0.012 | 0.2 | 29.46129802 | 35.17744815 | 247.5025717 | 0.1421296268 | 0.02396362142 | 1934.672638 | 159.2 | 56.99796715 | 4.690238645 | 7.523038615 |
| 0.2 | 0.012 | 0.2 | 58.92259604 | 8.794362038 | 15.48016073 | 0.568105344 | 0.1915696494 | 484.0199144 | 159.2 | 28.51970989 | 9.380477289 | 60.14057078 |
| 0.3 | 0.012 | 0.2 | 88.38389406 | 3.90860535 | 3.067439157 | 1.274224247 | 0.6445178562 | 215.797416 | 159.2 | 19.07301596 | 14.07071593 | 202.3372276 |
| 0.4 | 0.012 | 0.2 | 117.8451921 | 2.19859051 | 0.9787600457 | 2.246301858 | 1.514941776 | 122.4119986 | 159.2 | 14.42566549 | 18.76095458 | 475.5944555 |
| 0.5 | 0.012 | 0.2 | 147.3064901 | 1.407097926 | 0.4079849147 | 3.448896945 | 2.907488838 | 79.72818683 | 159.2 | 11.74447936 | 23.45119322 | 912.7648288 |
| 0.6 | 0.012 | 0.2 | 176.7677881 | 0.9771513376 | 0.2029649473 | 4.814384703 | 4.870346668 | 57.11514907 | 159.2 | 10.09611857 | 28.14143187 | 1528.976168 |
| 0.7 | 0.012 | 0.2 | 206.2290861 | 0.7179071052 | 0.1150781223 | 6.238432559 | 7.362772112 | 44.07746616 | 159.2 | 9.090055565 | 32.83167051 | 2311.437739 |
| 0.8 | 0.012 | 0.2 | 235.6903842 | 0.5496476274 | 0.07242250286 | 7.589459156 | 10.23690444 | 36.23107976 | 159.2 | 8.539317107 | 37.52190916 | 3213.730765 |
| 0.9 | 0.01465 | 0.2 | 265.1516822 | 0.4342894834 | 0.05237147107 | 8.292482042 | 12.58330963 | 33.15946886 | 159.2 | 8.792288947 | 42.2121478 | 3950.351352 |
| 1 | 0.0173 | 0.2 | 294.6129802 | 0.3517744815 | 0.04204905717 | 8.365811393 | 14.10509136 | 32.86881416 | 159.2 | 9.683579296 | 46.90238645 | 4428.093112 |
| 1.1 | 0.019975 | 0.22 | 324.0742782 | 0.290722712 | 0.03856933296 | 7.537665023 | 13.97968394 | 36.48003714 | 159.2 | 11.82224171 | 51.59262509 | 4388.723233 |
| 1.2 | 0.02265 | 0.24 | 353.5355762 | 0.2442878344 | 0.03697237105 | 6.607307767 | 13.36822101 | 41.61669317 | 159.2 | 14.7129816 | 56.28286374 | 4196.763131 |
| 1.3 | 0.025325 | 0.26 | 382.9968743 | 0.2081505808 | 0.03658993271 | 5.688739097 | 12.46887303 | 48.3365989 | 159.2 | 18.51276629 | 60.97310238 | 3914.425607 |
| 1.4 | 0.028 | 0.28 | 412.4581723 | 0.1794767763 | 0.0370193357 | 4.848190084 | 11.44393833 | 56.71689748 | 159.2 | 23.39334787 | 65.66334103 | 3592.661913 |
| 1.5 | 0.02783333333 | 0.3 | 441.9194703 | 0.156344214 | 0.03516638731 | 4.44584235 | 11.24380103 | 61.84976397 | 159.2 | 27.33261493 | 70.35357967 | 3529.83165 |
| 1.6 | 0.02766666667 | 0.32 | 471.3807683 | 0.1374119068 | 0.03370891695 | 4.07642604 | 10.99682678 | 67.45475014 | 159.2 | 31.79687195 | 75.04381831 | 3452.29759 |
| 1.7 | 0.0275 | 0.34 | 500.8420663 | 0.1217212739 | 0.0325374633 | 3.740957701 | 10.72258637 | 73.50371803 | 159.2 | 36.81375402 | 79.73405696 | 3366.20371 |
| 1.8 | 0.02733333333 | 0.36 | 530.3033643 | 0.1085723708 | 0.03157699883 | 3.438337235 | 10.43491245 | 79.97304546 | 159.2 | 42.40997507 | 84.4242956 | 3275.892568 |
| 1.9 | 0.02716666667 | 0.38 | 559.7646624 | 0.09744445472 | 0.03077492693 | 3.166358605 | 10.14335288 | 86.84243773 | 159.2 | 48.61132784 | 89.11453425 | 3184.36158 |
| 2 | 0.027 | 0.4 | 589.2259604 | 0.08794362038 | 0.03009363215 | 2.922333202 | 9.854340446 | 94.09409572 | 159.2 | 55.44268392 | 93.80477289 | 3093.630232 |

Table 4.3: Thrust Available, Thrust Required, Power Available, Power Required

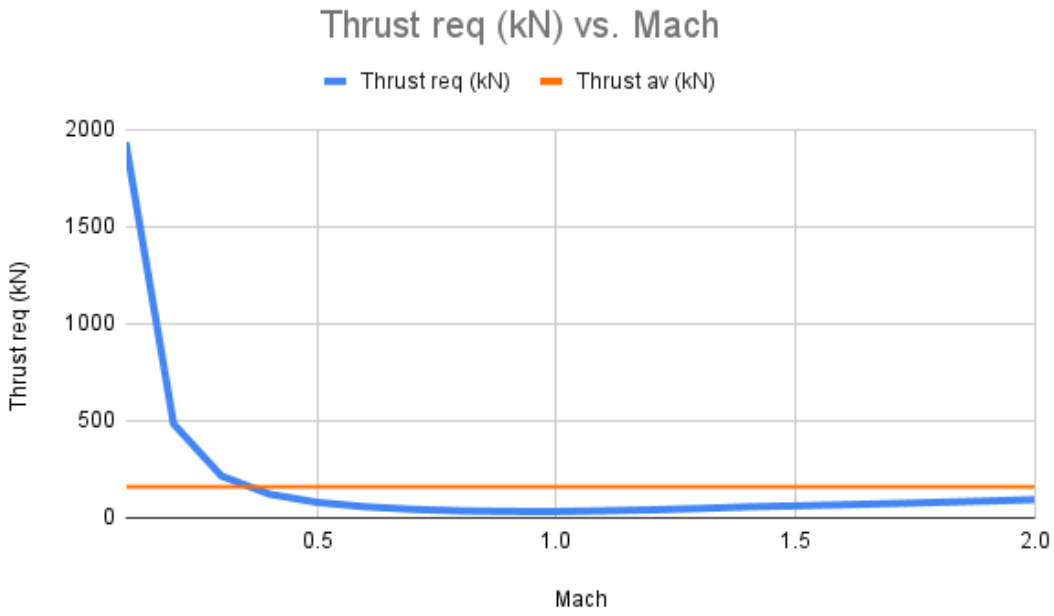


Figure 4.1: Thrust Required and Thrust Available

From this diagram, it is clear to see that at an altitude of 11 km the F-4E Phantom II needs to maintain a Mach value at or above 0.4 to maintain the necessary thrust required. This can be accomplished with a velocity of 118 $\frac{m}{s}$ if we assume standard atmospheric conditions.

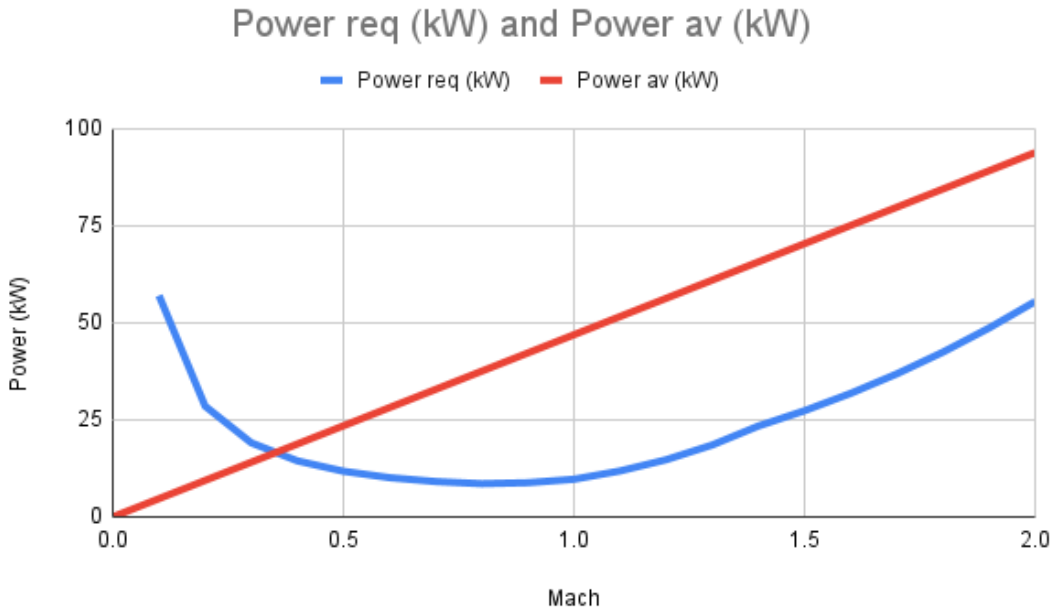


Figure 4.2: Power Required and Power Available

The power required and power available are also graphed in a way that confirms the F-4E Phantom II needs to maintain a Mach value of approximately 0.4 when at a cruising altitude of 11km with standard atmospheric conditions.

Once the engine attains a Mach value greater than 0.4 there is enough thrust and power to maintain its velocity. However, for a cruising speed, the most efficient speed is at Mach 1.

# Chapter 5

# PART 3

I chose to analyze the F4-E Phantom II at four separate Mach numbers; 0.5, 0.85, 1, and 1.5 in order to observe the differences in the engine performance around Mach 1. Additionally, I chose three separate turbine inlet total temperatures of 1500, 1600, and 1700 in order to see the differences in the following calculation. In the following sections, I will look at the specific thrust, the thrust-specific fuel consumption, and the engine's energy efficiencies at each Mach value.

### *5.0.1 MACH 0.5*

I was able to take the values above and calculate the specific thrust, thrust-specific fuel consumption, thermal efficiency, propulsive efficiency, and overall efficiencies for the F-4E Phantom II at an altitude of 11 km at Mach .05. As mentioned in the previous section I calculated three different intake temperatures; 1500, 1600, and 1700. These calculations can be found in Appendix A.

**Specific Thrust**

Because this engine is designed for a fighter plane, it is important that it have a high specific thrust. It needs to have the ability to move at supersonic speeds and make quick adjustments on the fly. The specific thrusts of each temperature can be summarized in figure 5.1.

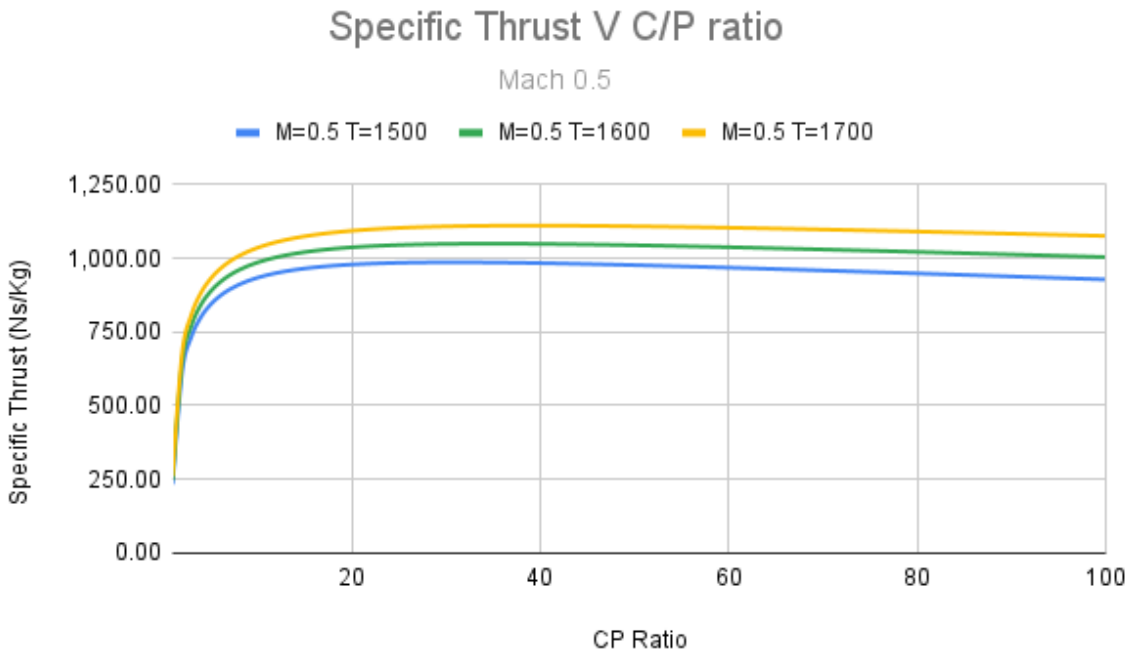


Figure 5.1: Specific Thrust V CP ratio (1) (Mach 0.5)

As expected, the higher the total temperature of the inlet allows for a higher specific thrust. There is peak performance of the specific thrust when the cp is around 65. The values also tend to level out when the CP ratio is approximately 16 or 17. A more specific evaluation can be done in appendix A.

### Thrust Specific Fuel Consumption

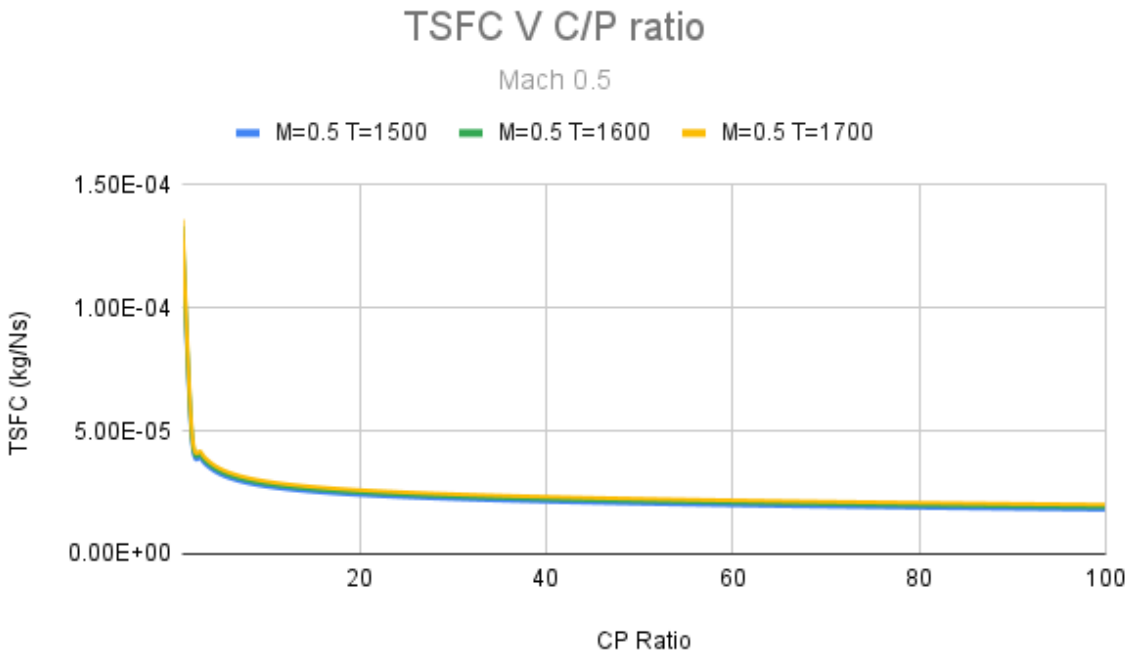


Figure 5.2: TSFC V CP ratio (Mach 0.5)

The thrust-specific fuel consumption can be seen in Figure 5.2. The thrust-specific fuel consumption did not fluctuate at all when I changed the total temperatures. The values do tend to decrease at a slow rate of change once the cp ratio reaches about 20.

### Efficiencies

To complete my analysis at Mach 0.5, I analyzed the thermal, propulsive, and total efficiencies of the engine.

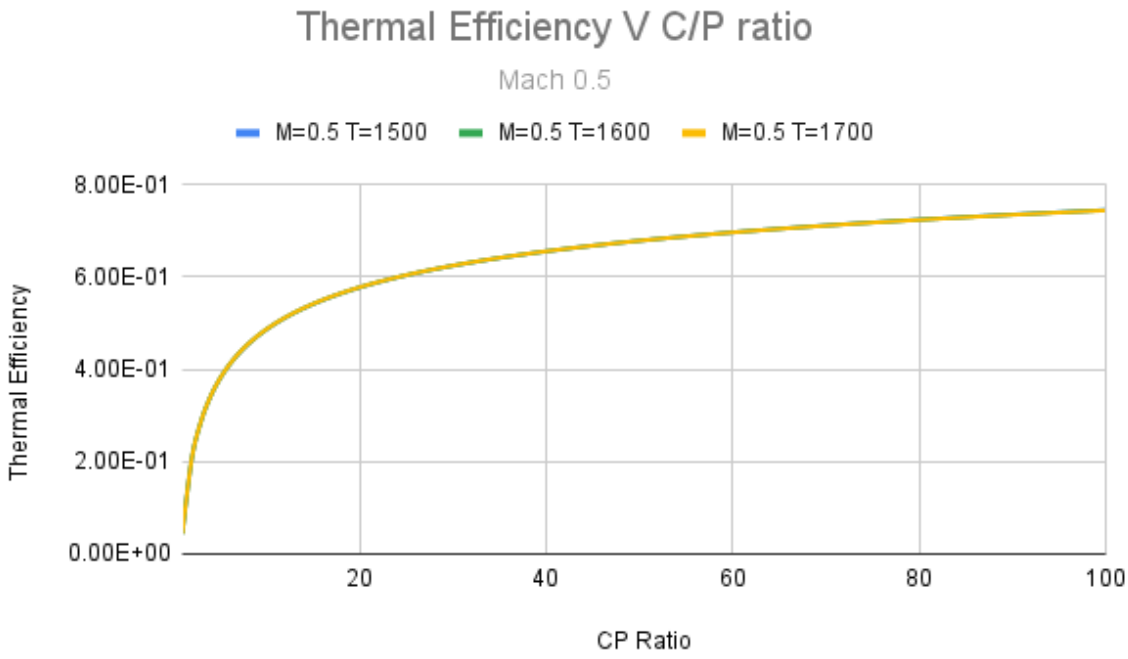


Figure 5.3: Thermal Efficiency V CP ratio (Mach 0.5)

I was surprised to see the thermal efficiencies of the three temperatures aligned exactly. This was specifically surprising since the varying values were temperature. However, when I ran the propulsive and total efficiencies the values made sense and supported what we would expect to see from this engine.

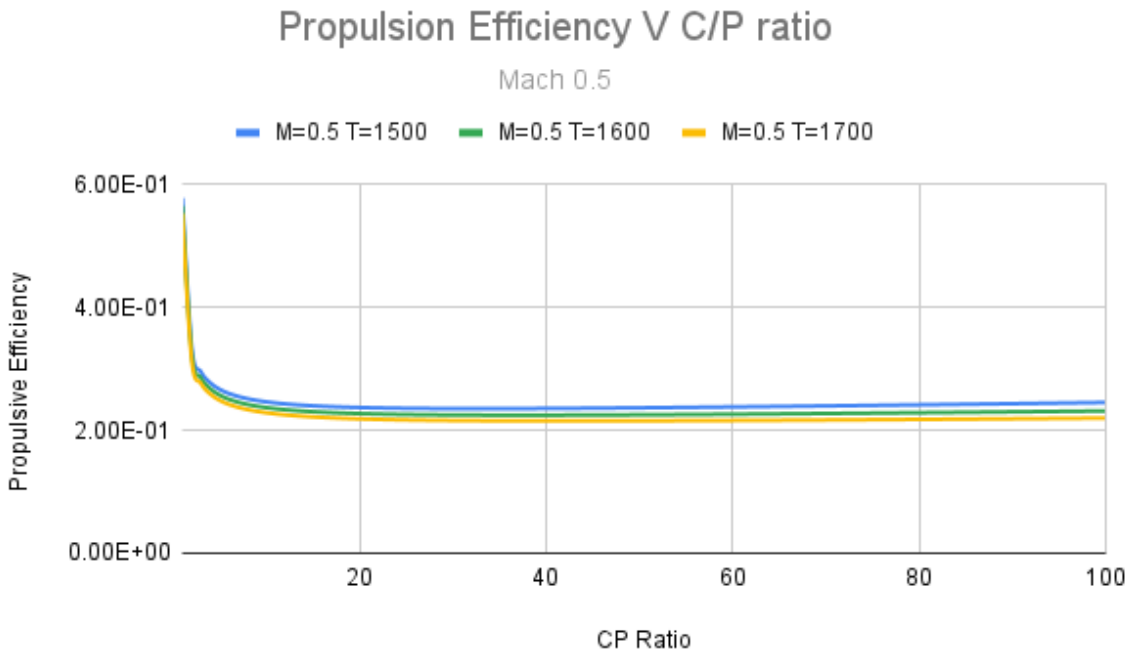


Figure 5.4: Propulsion Efficiency V CP ratio (Mach 0.5)

Figure 5.4 shows the propulsion efficiencies of the different temperatures. We get a lower efficiency as the temperatures are raised. Higher values at lower temperatures. Unfortunately, there is much better thrust at higher temperatures. Even though the efficiency is lower, I believe the power offset is worth sacrificing the small propulsion efficiencies.

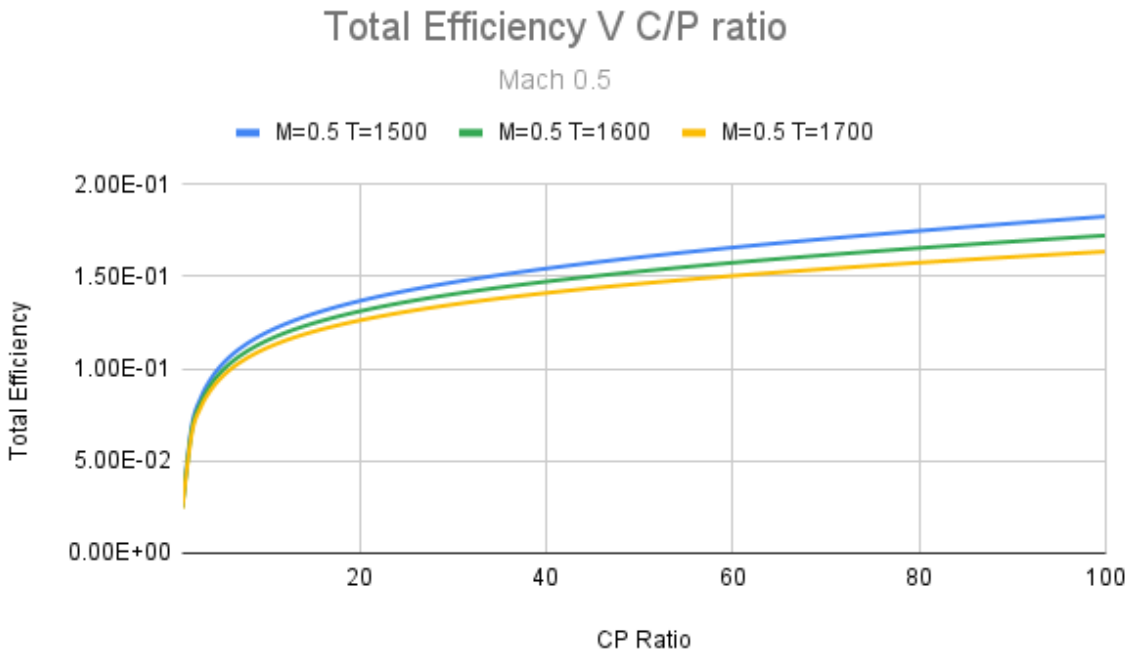


Figure 5.5: Total Efficiency V CP ratio (Mach 0.5)

To conclude mach 0.5 I calculated the total efficiencies in Figure 5.5. Unsurprisingly, we get better efficiencies with lower temperatures. The rates of change in the values also lessen as the cp ratio exceeds 10.

### *5.0.2 MACH 0.85*

**Specific Thrust**

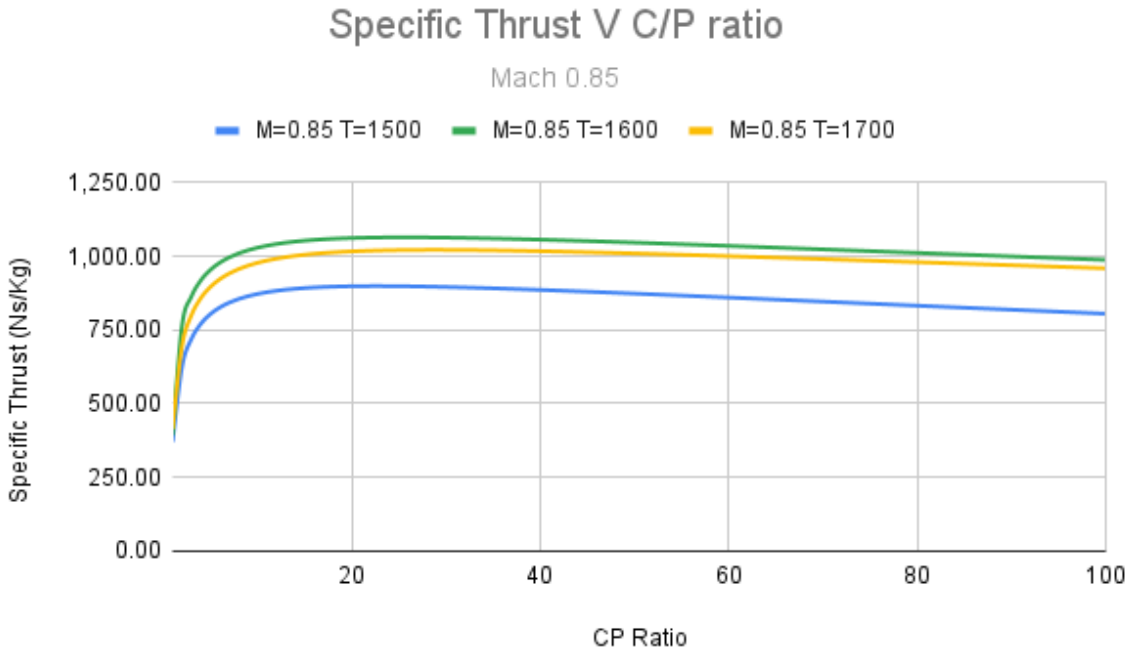


Figure 5.6: Specific Thrust V CP ratio (1) (Mach 0.85)

I now analyzed the engine at Mach 0.85 when we still are below Mach 1. This way we can see how the values change in relation to an increase in velocity but not so fast that we are breaking the sound barrier. Figure 5.6 shows us the specific thrust for mach 0.85. When we compare this with the specific thrust at Mach 1, figure 5.1, we see some interesting comparisons and contrasts.

The overall trend stays the same with the graphs. There is a peak slightly above 1,000,000 specific thrust. Both figures show a drastic leveling off of the slope. However, there is an increase in specific thrust for a total temperature of 1500.

The most interesting and surprising thing to me is that the total temperatures had a direct relation with the specific thrust at Mach 1. A total temperature of 1500 had the lowest specific thrust, 1600 had a mid-range value, and 1700 had the maximum

specific thrust. This is not the case when the plan reaches Mach 0.85. At Mach 0.85 total temperature of 1500 decreases slightly. Then temperatures 1600 and 1700 switch positions. Now there is a higher thrust when the total temperature is at 1600 and a temperature of 1700 is a mid-range specific thrust.

### Thrust Specific Fuel Consumption

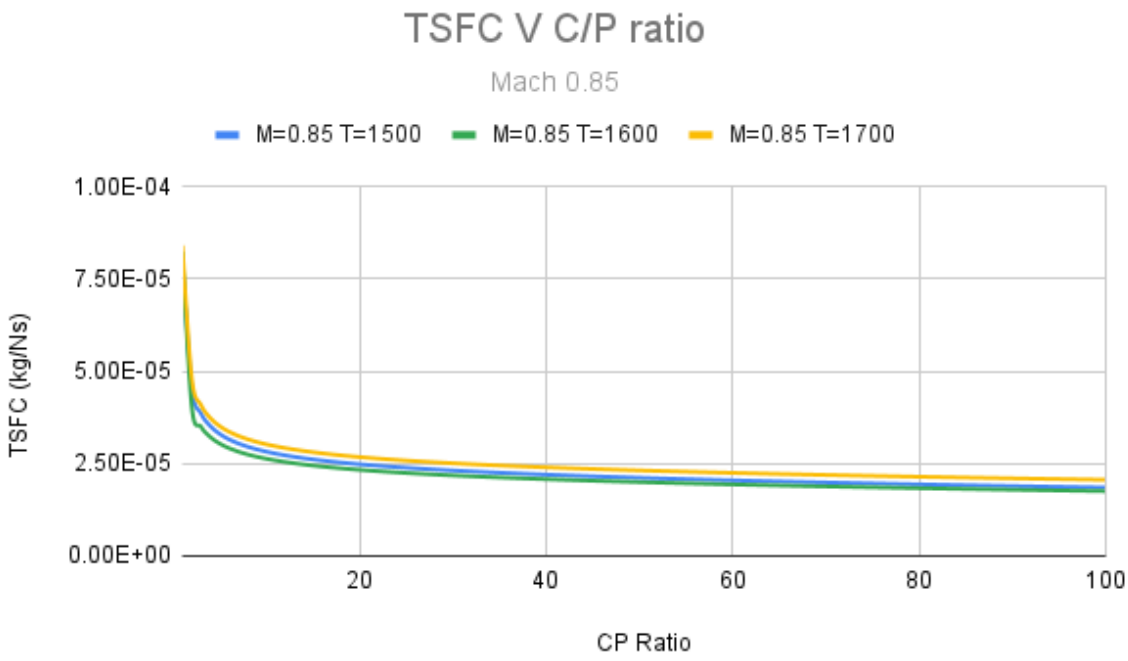


Figure 5.7: TSFC V CP ratio (Mach 0.85)

The thrust-specific fuel consumption has more separation when we increase the speed to Mach 08.5. At Mach 0.5 the TSPC for a total temperature of 1500 and 1600 were the same for all tenses and purposes. But at Mach 0.85 there is a greater separation. The TSFC is not as low at the higher Mach value, which is expected. The faster mach allows for more air to pass through and a greater TSFC.

**Efficiencies**

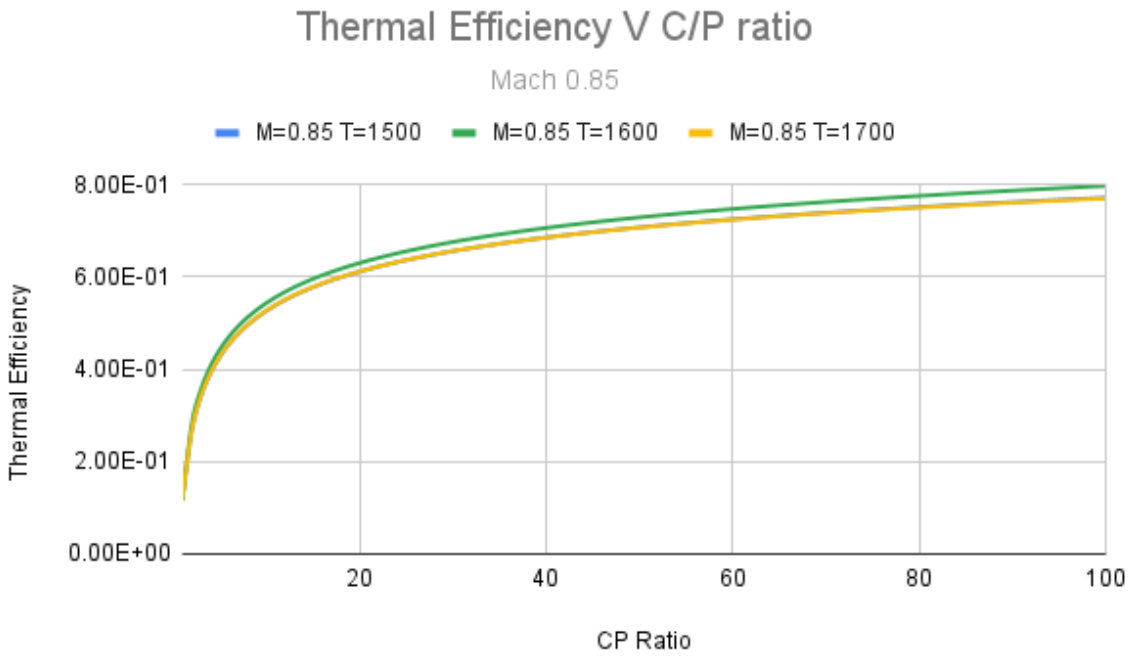


Figure 5.8: Thermal Efficiency V CP ratio (Mach 0.85)

The thermal efficiency at Mach 0.85 increases from its efficiency at Mach 0.5. This is expected as the engine is going to perform better as we approach and surpass Mach 1. Additionally, we have a greater separation between the three total temperatures. At Mach 0.5 the total temperatures had the same values. Here we see that the total temperature of 1700 is slightly less efficient (thermally) than the other two.

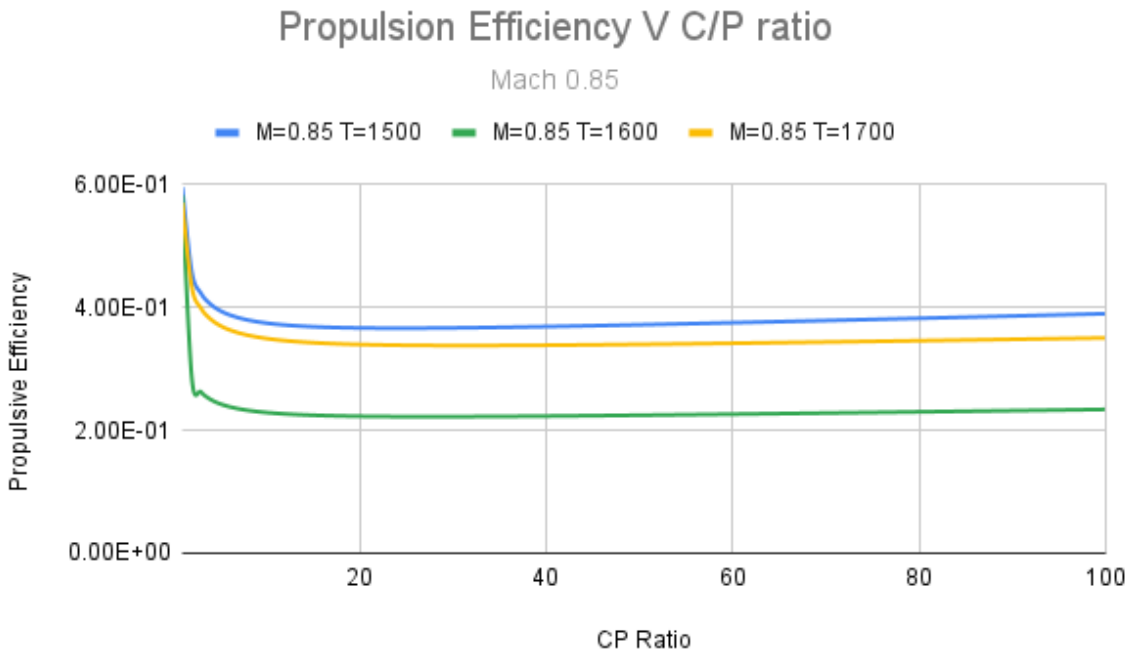


Figure 5.9: Propulsion Efficiency V CP ratio (Mach 0.85)

The propulsive efficiency at Mach 0.85 is drastically different from Mach 0.5. This is not too surprising since we are increasing the velocity to get closer to Mach 1. Similar to the TSFC we see the total temperature of 1500 has the best efficiency. There is a large increase in total temperatures of 1500 and 1700, but we do not have much change in a total temperature of 1600. This makes sense because a higher total temperature puts more efficiency into the thermal efficiency as we can see in Figure 5.8.

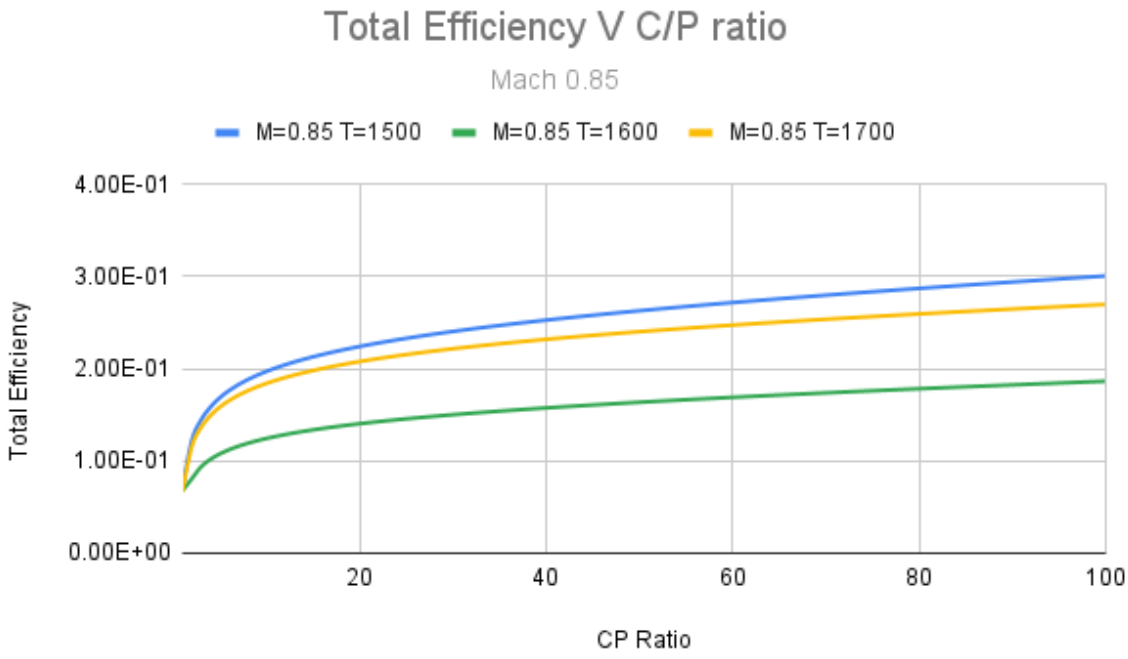


Figure 5.10: Total Efficiency V CP ratio (Mach 0.85)

Total efficiency also is surprising. Having a total temperature of 1500 will give a better total efficiency rating. Again the total temperatures of 1600 and 1700 change and there is a large loss of efficiency when a total temperature of 1700 is reached. Although we have a much lower thrust at a total temperature of 1500 there is a much better efficiency.

### *5.0.3 MACH 1*

**Specific Thrust**

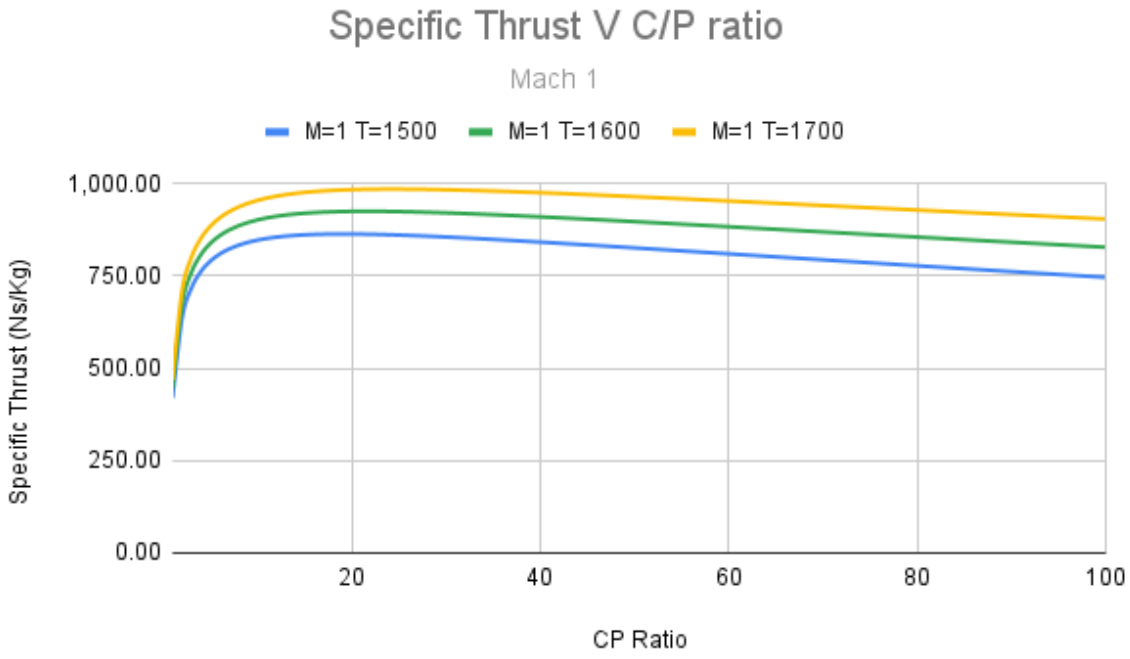


Figure 5.11: Specific Thrust V CP ratio (1) (Mach 1)

As the velocity increased, I analyzed the engine at Mach 1. The specific thrust can be seen in Figure 5.11. This graph is about what I expected to get. The higher the total temperature we use, the higher the specific thrust. Additionally, the thrust values are lower than those at lower Mach numbers. Especially if you compare the specific thrust of total temperature 1700 among Mach 0.5, 0.85, and 1. I do not think this is surprising, because a slower engine is going to be able to allocate more thrust than one already traveling at a higher Mach value. But, it is still worth mentioning in this analysis.

### Thrust Specific Fuel Consumption

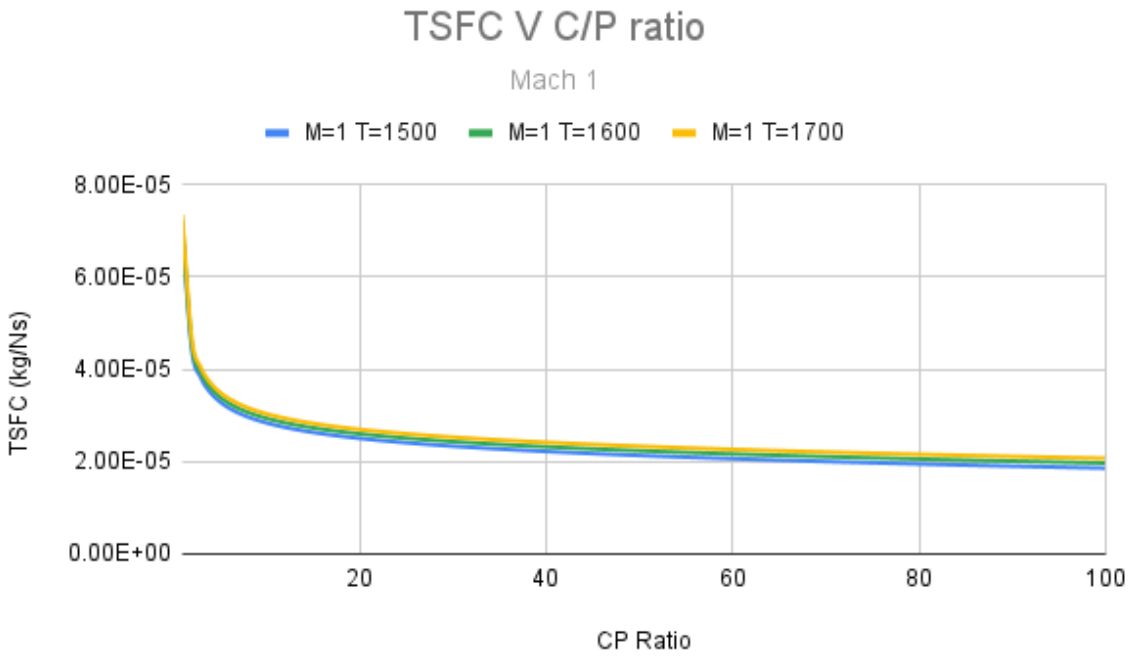


Figure 5.12: TSFC V CP ratio (Mach 1)

There is not much change in the thrust-specific fuel capacity. The value is slightly lower, but not enough to make a large difference. The total temperature at 1500 is the lowest at Mach 1. This is different from Mach 0.85 where the total temperature of 1600 was lower.

**Efficiencies**

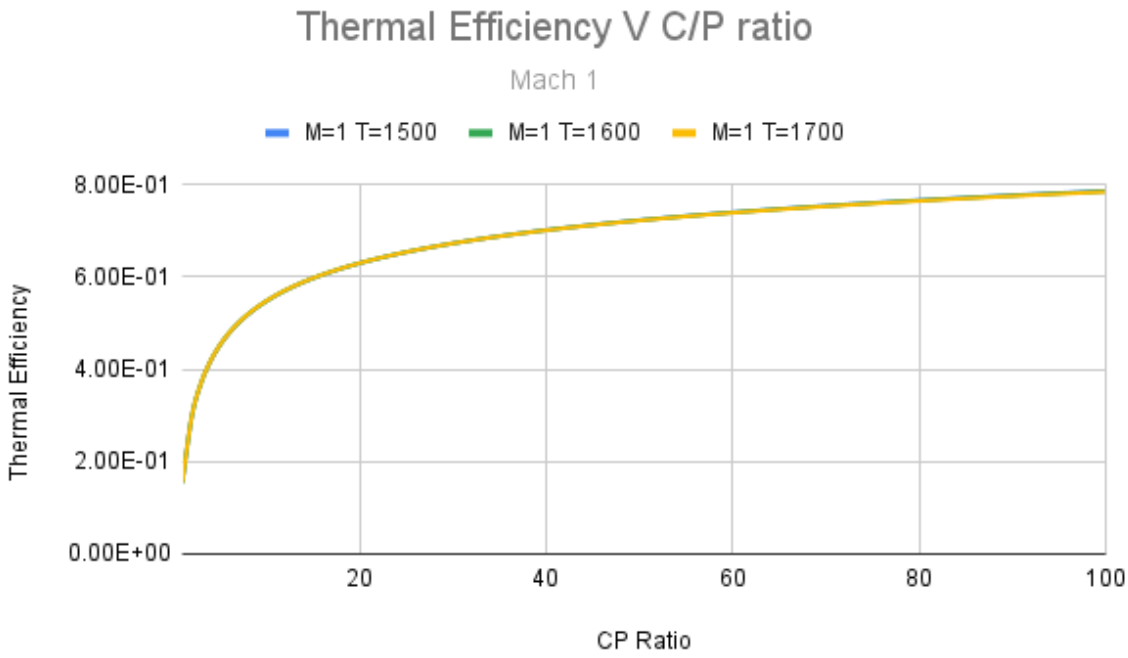


Figure 5.13: Thermal Efficiency V CP ratio (Mach 1)

The thermal efficiency at Mach 1 surprised me. All three total temperatures had the same thermal efficiency at each cp ratio value. I double-checked the values and calculations to confirm the results. I was surprised by this outcome.

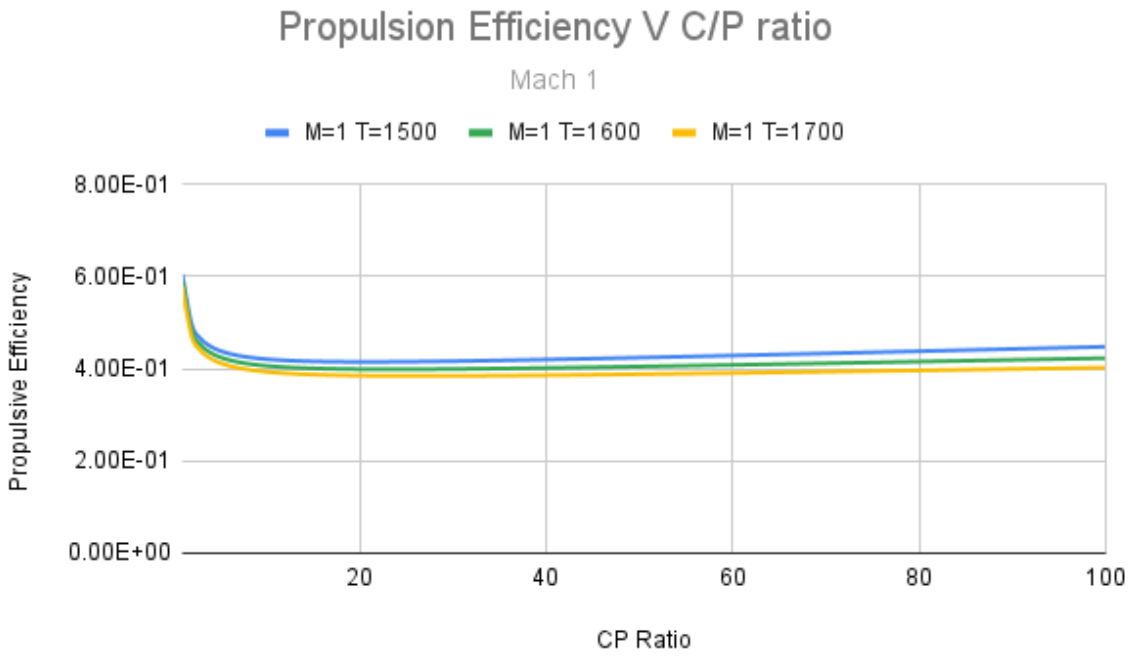


Figure 5.14: Propulsion Efficiency V CP ratio (Mach 1)

The propulsive efficiency is increasing pretty significantly as we increase the speed. At Mach 0.5 the propulsive efficiencies were around $2E-1$, at Mach 0.85 they increased to just below $4E-1$, but at Mach 1 they went above $4E-1$. There is also some consistency in propulsive efficiency. A total temperature of 1500 has the highest efficiency, followed by a total temperature of 1600 and 1700 respectively.

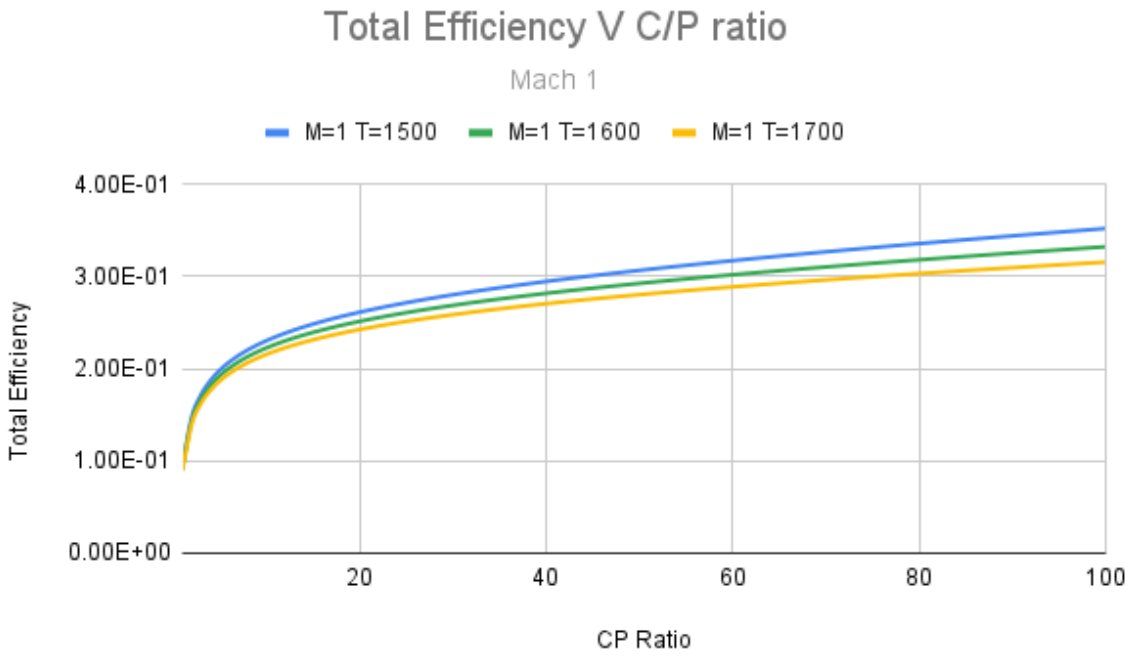


Figure 5.15: Total Efficiency V CP ratio (Mach 1)

The total efficiency is about what I expected. There is better efficiency with lower total temperatures. The efficiency continues to increase as the cp ratio increases. This is standard.

### *5.0.4 MACH 1.5*

**Specific Thrust**

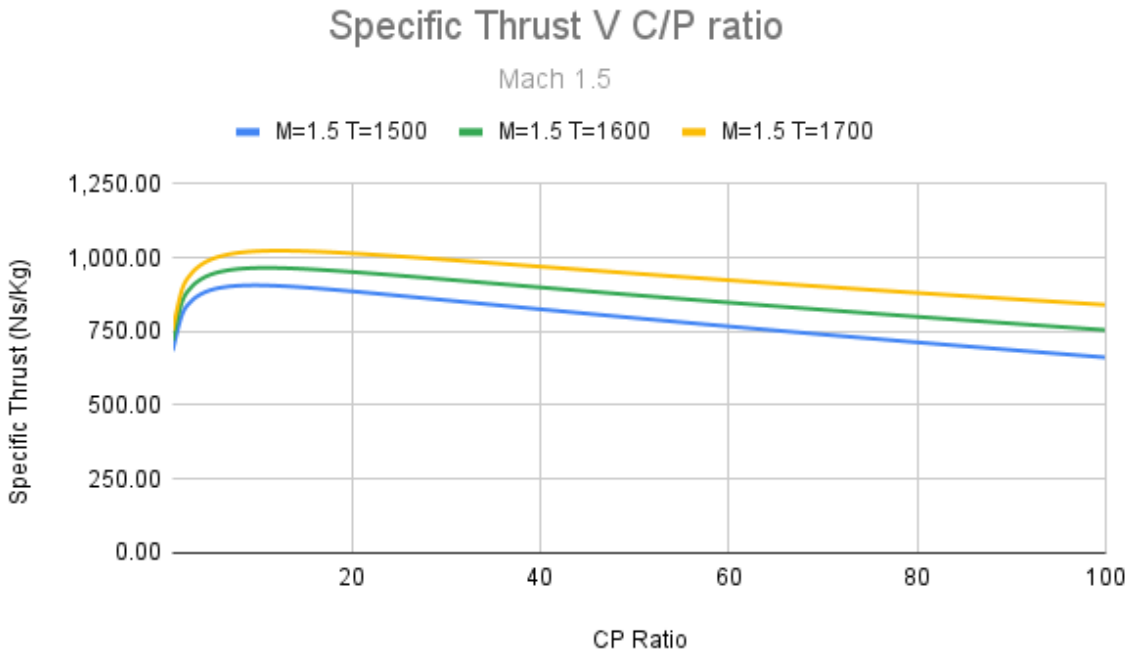


Figure 5.16: Specific Thrust V CP ratio (1) (Mach 1.5)

Now that the velocity is greater than Mach 1, the specific thrust continues to resemble Figure 5.11. Total temperature 1700 has the greatest specific thrust followed by 1600 and 150 respectively. One thing of note is that the specific thrust peaks around the 14-16 cp ratio and declines at a higher rate than previous velocities.

### Thrust Specific Fuel Consumption

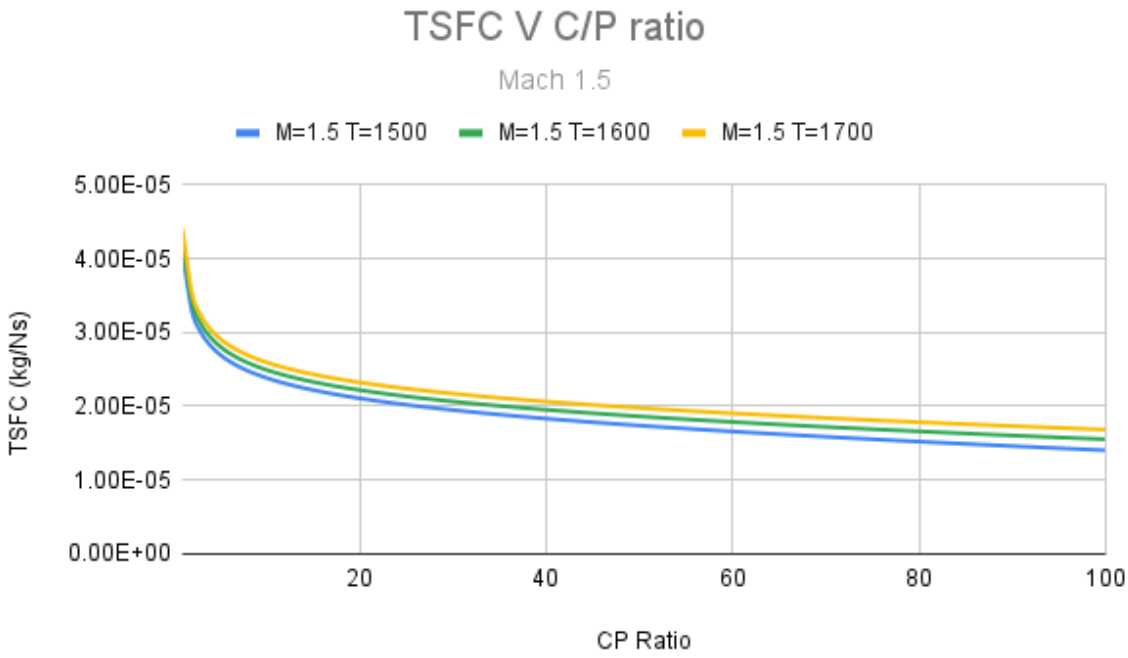


Figure 5.17: TSFC V CP ratio (Mach 1.5)

The thrust-specific fuel consumption at Mach 1.5 increased from Mach 1. This is a trend that was observed throughout the analysis. The highest TSFC is at 1700 and the lowest at 1500. This is what we expected to see.

**Efficiencies**

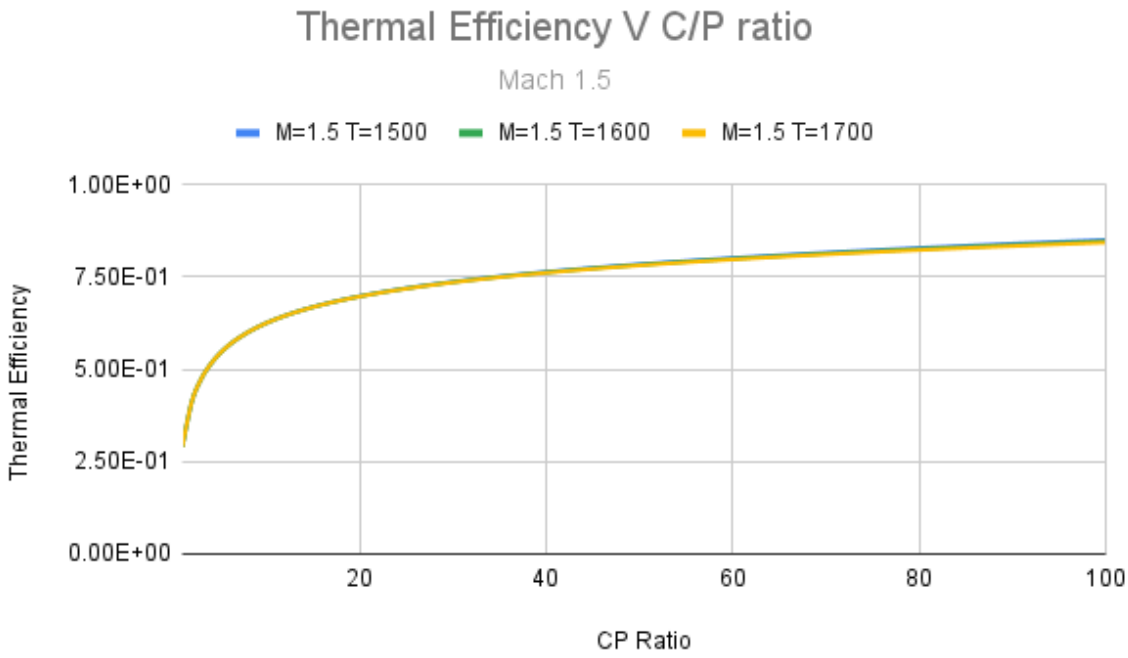


Figure 5.18: Thermal Efficiency V CP ratio (Mach 1.5)

The thermal efficiencies at Mach 1.5 still tend to overlap as they did for Mach 1, however at higher cp ratio values, we see that the total temperature of 1600 surpasses the total temperature of 1700. For the most part, the total temperature does not affect the thermal efficiency.

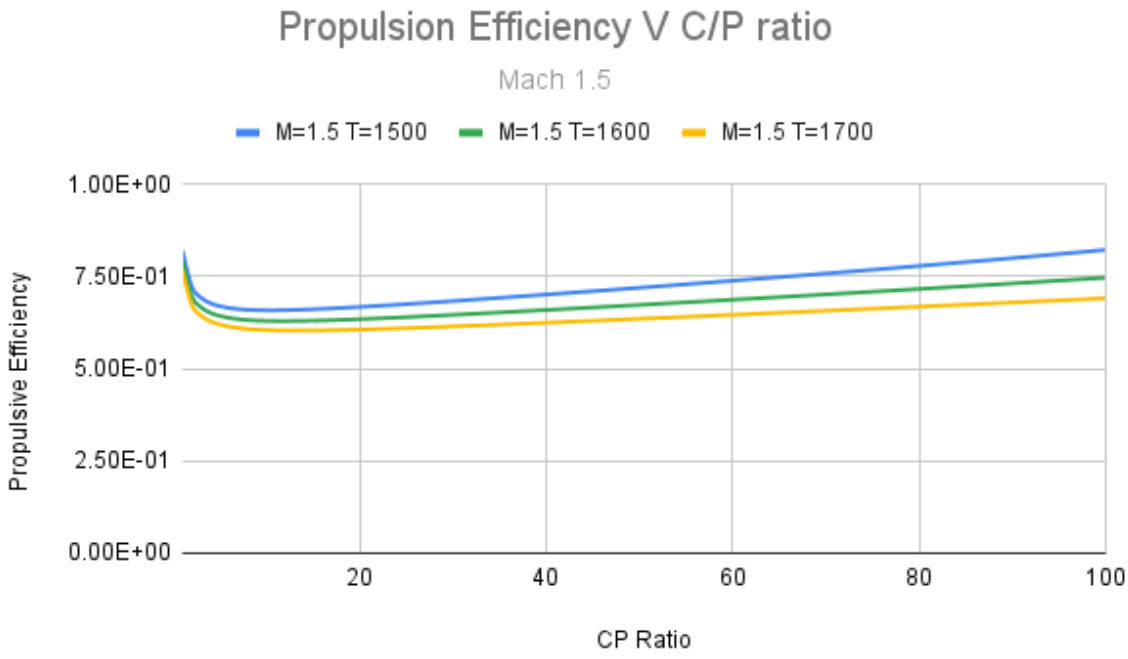


Figure 5.19: Propulsion Efficiency V CP ratio (Mach 1.5)

Although the propulsion proficiency graphs for Mach 1 and Mach 1.5 look similar, there is a 10% difference in their values. The engine has a much better proficiency at Mach 1.5. This reinforces my argument that this engine will perform better at the higher Mach values.

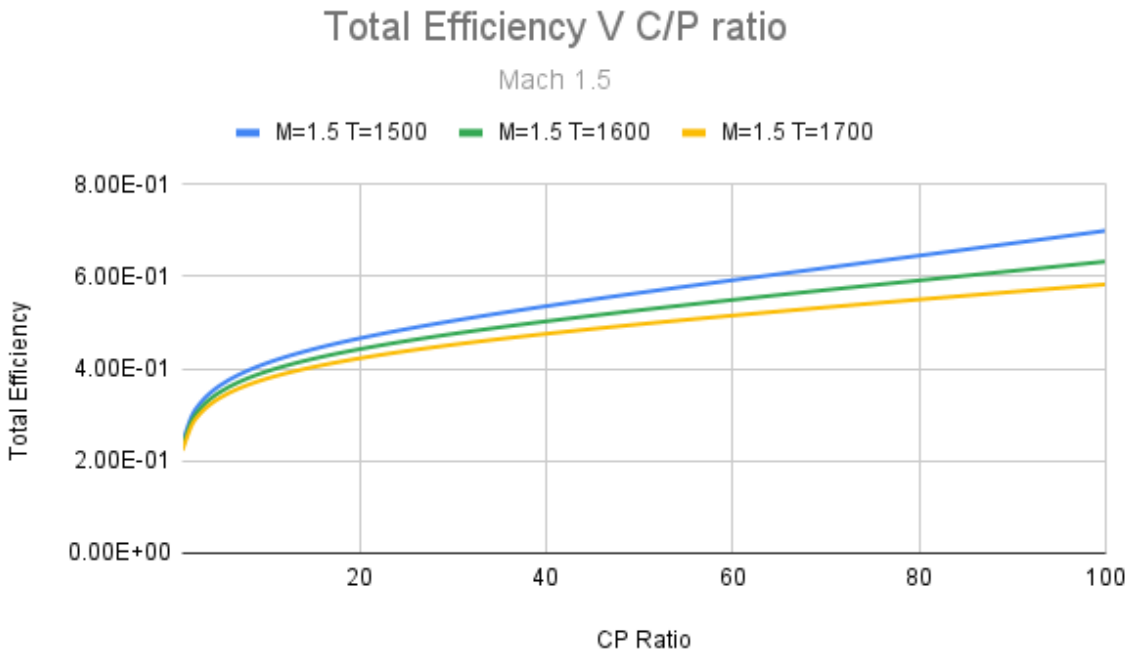


Figure 5.20: Total Efficiency V CP ratio (Mach 1.5)

The total efficiency drastically increases at Mach 1.5. Mach 1 the efficiency was around $2E-1$ at cp ratios before 20. However, at Mach 1.5 the ranges jump to $4E-1$. The efficiency of the engine doubles! The total temperatures affect the efficiency in the same way they have for the other Mach values. This is not unexpected, it just means that there is going to be a trade-off between thrust and efficiency.

# Chapter 6

# INLET AREA

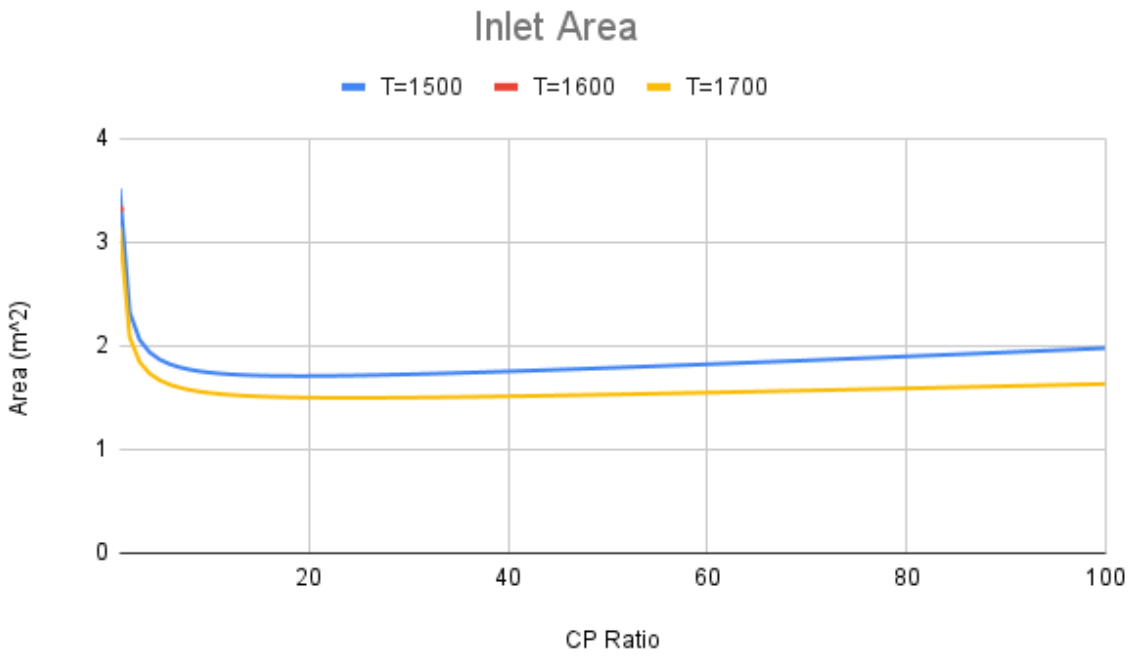


Figure 6.1: Inlet Area

Finally, I calculated the inlet area at Mach 1 in order to determine the best size for the engine. The area values for total temperatures 1500 and 1600 are aligned on the figure. However, we can see that the inlet area is at peak performance when it is between 1.5 and 2 $m^2$.

# Chapter 7

# RESULTS AND DISCUSSIONS

As a result of the analysis, there are some interesting occurrences when the F-4E Phantom II travels below Mach 1. Its optimal performance is when it travels above Mach 1. The propulsive efficiencies and total efficiencies drastically increase above Mach 1. The Thrust and TSFC both tend to increase. Therefore as the plane increases in velocity, there will be a tradeoff in fuel efficiency and cost, which is to be expected. The plane does not perform as well with lower total temperatures although the overall efficiency is slightly better, the trade-off is not worth the loss of performance. The plan operates best at total temperatures of 1600 or 1700 and speeds above Mach 1.

# Chapter 8

# CONCLUSION

In conclusion, we see that this engine performs best when it is traveling at Mach values greater than 1. This is ideal since the engine is for a military fighter designed to travel at above-mach speeds. This also suggests that, although fuel and finance are important, proficiency is essential. I recommend that the engine turbine inlet temperature be around 1600 to 1700 in order to maximize specific thrust without abandoning efficiency values. If the engine's inlet area can be modified, maintaining an inlet area of approximately 2 $m^2$ will allow for optimal performance. Applying dual engines to this plane will provide it with twice the thrust and maintain the total efficiencies.

# Appendix A

# APPENDIX A: MACH .05 CALCULATIONS

| Mach = 0.5 and Turbine Inlet Temperature = 1500 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 227.61 | | | | | | | | | | | | |
| Pt2 | 26,788.86 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=0.5 T=1500 | M=0.5 T=1500 | M=0.5 T=1500 | M=0.5 T=1500 | M=0.5 T=1500 |
| 1 | 26,788.86 | 227.6140073 | 0.03 | 1.50E+03 | 1.00E+00 | 2.68E+04 | 8.47E-01 | 369.2772708 | 233.17 | 1.30E-04 | 4.35E-02 | 5.78E-01 | 2.52E-02 |
| 2 | 53,577.71 | 274.4726381 | 0.03 | 1.46E+03 | 9.72E-01 | 4.72E+04 | 4.81E-01 | 737.5446194 | 611.77 | 4.77E-05 | 2.05E-01 | 3.35E-01 | 6.86E-02 |
| 3 | 80,366.57 | 306.2362161 | 0.03 | 1.43E+03 | 9.53E-01 | 6.48E+04 | 3.50E-01 | 856.8153902 | 733.86 | 3.87E-05 | 2.87E-01 | 2.95E-01 | 8.45E-02 |
| 4 | 107,155.42 | 330.9780009 | 0.03 | 1.41E+03 | 9.38E-01 | 8.05E+04 | 2.82E-01 | 921.3979783 | 799.72 | 3.48E-05 | 3.40E-01 | 2.77E-01 | 9.41E-02 |
| 5 | 133,944.28 | 351.537699 | 0.03 | 1.39E+03 | 9.26E-01 | 9.48E+04 | 2.39E-01 | 962.8329615 | 841.82 | 3.24E-05 | 3.79E-01 | 2.66E-01 | 1.01E-01 |
| 6 | 160,733.13 | 369.2807097 | 0.03 | 1.37E+03 | 9.16E-01 | 1.08E+05 | 2.10E-01 | 991.9166743 | 871.27 | 3.09E-05 | 4.09E-01 | 2.60E-01 | 1.06E-01 |
| 7 | 187,521.99 | 384.97909 | 0.03 | 1.36E+03 | 9.06E-01 | 1.20E+05 | 1.89E-01 | 1013.506299 | 893.05 | 2.97E-05 | 4.33E-01 | 2.55E-01 | 1.10E-01 |
| 8 | 214,310.84 | 399.1160569 | 0.03 | 1.35E+03 | 8.98E-01 | 1.32E+05 | 1.72E-01 | 1030.155342 | 909.79 | 2.87E-05 | 4.53E-01 | 2.51E-01 | 1.14E-01 |
| 9 | 241,099.70 | 412.0160319 | 0.03 | 1.33E+03 | 8.90E-01 | 1.42E+05 | 1.59E-01 | 1043.351387 | 923.00 | 2.80E-05 | 4.71E-01 | 2.48E-01 | 1.17E-01 |
| 10 | 267,888.55 | 423.9083561 | 0.03 | 1.32E+03 | 8.83E-01 | 1.53E+05 | 1.49E-01 | 1054.027002 | 933.65 | 2.74E-05 | 4.86E-01 | 2.46E-01 | 1.20E-01 |
| 11 | 294,677.41 | 434.9617065 | 0.03 | 1.31E+03 | 8.76E-01 | 1.62E+05 | 1.40E-01 | 1062.800023 | 942.36 | 2.68E-05 | 5.00E-01 | 2.44E-01 | 1.22E-01 |
| 12 | 321,466.26 | 445.3040998 | 0.03 | 1.30E+03 | 8.70E-01 | 1.71E+05 | 1.32E-01 | 1070.097834 | 949.57 | 2.64E-05 | 5.12E-01 | 2.43E-01 | 1.24E-01 |
| 13 | 348,255.12 | 455.0352064 | 0.02 | 1.30E+03 | 8.64E-01 | 1.80E+05 | 1.26E-01 | 1076.226524 | 955.60 | 2.59E-05 | 5.22E-01 | 2.42E-01 | 1.26E-01 |
| 14 | 375,043.97 | 464.2342874 | 0.02 | 1.29E+03 | 8.59E-01 | 1.88E+05 | 1.21E-01 | 1081.411666 | 960.67 | 2.56E-05 | 5.32E-01 | 2.41E-01 | 1.28E-01 |
| 15 | 401,832.83 | 472.9655088 | 0.02 | 1.28E+03 | 8.53E-01 | 1.96E+05 | 1.16E-01 | 1085.823516 | 964.96 | 2.52E-05 | 5.41E-01 | 2.40E-01 | 1.30E-01 |
| 16 | 428,621.68 | 481.2816152 | 0.02 | 1.27E+03 | 8.48E-01 | 2.04E+05 | 1.11E-01 | 1089.593221 | 968.60 | 2.49E-05 | 5.49E-01 | 2.39E-01 | 1.31E-01 |
| 17 | 455,410.54 | 489.2265382 | 0.02 | 1.27E+03 | 8.44E-01 | 2.11E+05 | 1.08E-01 | 1092.823581 | 971.69 | 2.47E-05 | 5.57E-01 | 2.38E-01 | 1.33E-01 |
| 18 | 482,199.39 | 496.837293 | 0.02 | 1.26E+03 | 8.39E-01 | 2.18E+05 | 1.04E-01 | 1095.596413 | 974.33 | 2.44E-05 | 5.64E-01 | 2.38E-01 | 1.34E-01 |
| 19 | 508,988.25 | 504.1453859 | 0.02 | 1.25E+03 | 8.35E-01 | 2.24E+05 | 1.01E-01 | 1097.977709 | 976.57 | 2.42E-05 | 5.71E-01 | 2.37E-01 | 1.36E-01 |
| 20 | 535,777.10 | 511.1778763 | 0.02 | 1.25E+03 | 8.30E-01 | 2.31E+05 | 9.83E-02 | 1100.021326 | 978.48 | 2.39E-05 | 5.77E-01 | 2.37E-01 | 1.37E-01 |
| 21 | 562,565.96 | 517.9581926 | 0.02 | 1.24E+03 | 8.26E-01 | 2.37E+05 | 9.58E-02 | 1101.771688 | 980.08 | 2.37E-05 | 5.83E-01 | 2.37E-01 | 1.38E-01 |
| 22 | 589,354.81 | 524.506767 | 0.02 | 1.23E+03 | 8.22E-01 | 2.43E+05 | 9.35E-02 | 1103.265782 | 981.44 | 2.35E-05 | 5.89E-01 | 2.36E-01 | 1.39E-01 |
| 23 | 616,143.67 | 530.8415355 | 0.02 | 1.23E+03 | 8.18E-01 | 2.48E+05 | 9.13E-02 | 1104.534666 | 982.56 | 2.33E-05 | 5.94E-01 | 2.36E-01 | 1.40E-01 |
| 24 | 642,932.52 | 536.9783368 | 0.02 | 1.22E+03 | 8.15E-01 | 2.54E+05 | 8.94E-02 | 1105.604622 | 983.49 | 2.32E-05 | 5.99E-01 | 2.36E-01 | 1.41E-01 |
| 25 | 669,721.38 | 542.9312339 | 0.02 | 1.22E+03 | 8.11E-01 | 2.59E+05 | 8.76E-02 | 1106.498049 | 984.25 | 2.30E-05 | 6.04E-01 | 2.36E-01 | 1.42E-01 |
| 26 | 696,510.23 | 548.712775 | 0.02 | 1.21E+03 | 8.08E-01 | 2.64E+05 | 8.59E-02 | 1107.234157 | 984.84 | 2.28E-05 | 6.08E-01 | 2.36E-01 | 1.43E-01 |
| 27 | 723,299.09 | 554.3342086 | 0.02 | 1.21E+03 | 8.04E-01 | 2.69E+05 | 8.43E-02 | 1107.829518 | 985.30 | 2.27E-05 | 6.13E-01 | 2.35E-01 | 1.44E-01 |
| 28 | 750,087.94 | 559.8056601 | 0.02 | 1.20E+03 | 8.01E-01 | 2.74E+05 | 8.29E-02 | 1108.29851 | 985.63 | 2.26E-05 | 6.17E-01 | 2.35E-01 | 1.45E-01 |
| 29 | 776,876.80 | 565.1362801 | 0.02 | 1.20E+03 | 7.98E-01 | 2.78E+05 | 8.15E-02 | 1108.653666 | 985.85 | 2.24E-05 | 6.21E-01 | 2.35E-01 | 1.46E-01 |
| 30 | 803,665.65 | 570.3343679 | 0.02 | 1.19E+03 | 7.95E-01 | 2.83E+05 | 8.02E-02 | 1108.905963 | 985.97 | 2.23E-05 | 6.24E-01 | 2.35E-01 | 1.47E-01 |
| 31 | 830,454.51 | 575.4074766 | 0.02 | 1.19E+03 | 7.92E-01 | 2.87E+05 | 7.90E-02 | 1109.065056 | 985.99 | 2.22E-05 | 6.28E-01 | 2.35E-01 | 1.48E-01 |
| 32 | 857,243.36 | 580.3625015 | 0.02 | 1.18E+03 | 7.89E-01 | 2.91E+05 | 7.79E-02 | 1109.139475 | 985.94 | 2.20E-05 | 6.32E-01 | 2.35E-01 | 1.49E-01 |
| 33 | 884,032.22 | 585.2057558 | 0.02 | 1.18E+03 | 7.86E-01 | 2.95E+05 | 7.69E-02 | 1109.136779 | 985.80 | 2.19E-05 | 6.35E-01 | 2.35E-01 | 1.49E-01 |
| 34 | 910,821.07 | 589.9430365 | 0.02 | 1.17E+03 | 7.83E-01 | 2.99E+05 | 7.59E-02 | 1109.063694 | 985.60 | 2.18E-05 | 6.38E-01 | 2.35E-01 | 1.50E-01 |
| 35 | 937,609.93 | 594.5796794 | 0.02 | 1.17E+03 | 7.80E-01 | 3.03E+05 | 7.49E-02 | 1108.926222 | 985.33 | 2.17E-05 | 6.41E-01 | 2.35E-01 | 1.51E-01 |
| 36 | 964,398.78 | 599.1206086 | 0.02 | 1.17E+03 | 7.77E-01 | 3.06E+05 | 7.41E-02 | 1108.729739 | 985.01 | 2.16E-05 | 6.44E-01 | 2.35E-01 | 1.52E-01 |
| 37 | 991,187.64 | 603.5703783 | 0.02 | 1.16E+03 | 7.75E-01 | 3.10E+05 | 7.32E-02 | 1108.479069 | 984.63 | 2.15E-05 | 6.47E-01 | 2.35E-01 | 1.52E-01 |
| 38 | 1,017,976.49 | 607.93321 | 0.02 | 1.16E+03 | 7.72E-01 | 3.13E+05 | 7.24E-02 | 1108.178557 | 984.21 | 2.14E-05 | 6.50E-01 | 2.35E-01 | 1.53E-01 |
| 39 | 1,044,765.35 | 612.2130246 | 0.02 | 1.15E+03 | 7.69E-01 | 3.17E+05 | 7.17E-02 | 1107.832127 | 983.74 | 2.13E-05 | 6.53E-01 | 2.35E-01 | 1.54E-01 |
| 40 | 1,071,554.20 | 616.413471 | 0.02 | 1.15E+03 | 7.67E-01 | 3.20E+05 | 7.10E-02 | 1107.443326 | 983.23 | 2.12E-05 | 6.56E-01 | 2.35E-01 | 1.54E-01 |
| 41 | 1,098,343.06 | 620.5379513 | 0.02 | 1.15E+03 | 7.64E-01 | 3.23E+05 | 7.03E-02 | 1107.015374 | 982.68 | 2.11E-05 | 6.58E-01 | 2.36E-01 | 1.55E-01 |
| 42 | 1,125,131.91 | 624.5896432 | 0.02 | 1.14E+03 | 7.62E-01 | 3.26E+05 | 6.96E-02 | 1106.551197 | 982.10 | 2.10E-05 | 6.61E-01 | 2.36E-01 | 1.56E-01 |
| 43 | 1,151,920.77 | 628.5715192 | 0.02 | 1.14E+03 | 7.59E-01 | 3.29E+05 | 6.90E-02 | 1106.05346 | 981.48 | 2.09E-05 | 6.63E-01 | 2.36E-01 | 1.56E-01 |
| 44 | 1,178,709.62 | 632.486365 | 0.02 | 1.14E+03 | 7.57E-01 | 3.32E+05 | 6.85E-02 | 1105.524597 | 980.84 | 2.09E-05 | 6.66E-01 | 2.36E-01 | 1.57E-01 |
| 45 | 1,205,498.48 | 636.3367946 | 0.02 | 1.13E+03 | 7.55E-01 | 3.34E+05 | 6.79E-02 | 1104.966831 | 980.16 | 2.08E-05 | 6.68E-01 | 2.36E-01 | 1.58E-01 |
| 46 | 1,232,287.33 | 640.1252649 | 0.02 | 1.13E+03 | 7.52E-01 | 3.37E+05 | 6.74E-02 | 1104.382201 | 979.46 | 2.07E-05 | 6.70E-01 | 2.36E-01 | 1.58E-01 |
| 47 | 1,259,076.19 | 643.8540878 | 0.02 | 1.13E+03 | 7.50E-01 | 3.39E+05 | 6.69E-02 | 1103.772576 | 978.74 | 2.06E-05 | 6.72E-01 | 2.36E-01 | 1.59E-01 |
| 48 | 1,285,865.04 | 647.5254423 | 0.02 | 1.12E+03 | 7.48E-01 | 3.42E+05 | 6.64E-02 | 1103.139674 | 978.00 | 2.05E-05 | 6.74E-01 | 2.36E-01 | 1.59E-01 |
| 49 | 1,312,653.90 | 651.1413842 | 0.02 | 1.12E+03 | 7.46E-01 | 3.44E+05 | 6.59E-02 | 1102.485078 | 977.23 | 2.05E-05 | 6.77E-01 | 2.36E-01 | 1.60E-01 |
| 50 | 1,339,442.75 | 654.7038554 | 0.02 | 1.12E+03 | 7.44E-01 | 3.47E+05 | 6.55E-02 | 1101.810245 | 976.45 | 2.04E-05 | 6.79E-01 | 2.36E-01 | 1.60E-01 |
| 51 | 1,366,231.61 | 658.2146929 | 0.02 | 1.11E+03 | 7.41E-01 | 3.49E+05 | 6.51E-02 | 1101.116523 | 975.65 | 2.03E-05 | 6.81E-01 | 2.37E-01 | 1.61E-01 |
| 52 | 1,393,020.46 | 661.6756357 | 0.02 | 1.11E+03 | 7.39E-01 | 3.51E+05 | 6.47E-02 | 1100.405155 | 974.83 | 2.03E-05 | 6.83E-01 | 2.37E-01 | 1.62E-01 |
| 53 | 1,419,809.32 | 665.0883325 | 0.02 | 1.11E+03 | 7.37E-01 | 3.53E+05 | 6.43E-02 | 1099.677295 | 973.99 | 2.02E-05 | 6.84E-01 | 2.37E-01 | 1.62E-01 |
| 54 | 1,446,598.17 | 668.4543473 | 0.02 | 1.10E+03 | 7.35E-01 | 3.55E+05 | 6.39E-02 | 1098.934008 | 973.15 | 2.01E-05 | 6.86E-01 | 2.37E-01 | 1.63E-01 |
| 55 | 1,473,387.03 | 671.7751657 | 0.02 | 1.10E+03 | 7.33E-01 | 3.57E+05 | 6.36E-02 | 1098.176288 | 972.29 | 2.01E-05 | 6.88E-01 | 2.37E-01 | 1.63E-01 |
| 56 | 1,500,175.88 | 675.0522001 | 0.02 | 1.10E+03 | 7.31E-01 | 3.59E+05 | 6.32E-02 | 1097.405053 | 971.41 | 2.00E-05 | 6.90E-01 | 2.37E-01 | 1.64E-01 |
| 57 | 1,526,964.74 | 678.2867945 | 0.02 | 1.09E+03 | 7.29E-01 | 3.61E+05 | 6.29E-02 | 1096.62116 | 970.53 | 1.99E-05 | 6.92E-01 | 2.37E-01 | 1.64E-01 |
| 58 | 1,553,753.59 | 681.4802286 | 0.02 | 1.09E+03 | 7.27E-01 | 3.63E+05 | 6.26E-02 | 1095.825405 | 969.63 | 1.99E-05 | 6.93E-01 | 2.38E-01 | 1.65E-01 |
| 59 | 1,580,542.45 | 684.6337228 | 0.02 | 1.09E+03 | 7.25E-01 | 3.64E+05 | 6.23E-02 | 1095.018532 | 968.72 | 1.98E-05 | 6.95E-01 | 2.38E-01 | 1.65E-01 |
| 60 | 1,607,331.30 | 687.7484408 | 0.02 | 1.09E+03 | 7.23E-01 | 3.66E+05 | 6.20E-02 | 1094.201232 | 967.81 | 1.97E-05 | 6.97E-01 | 2.38E-01 | 1.66E-01 |
| 61 | 1,634,120.16 | 690.8254941 | 0.02 | 1.08E+03 | 7.22E-01 | 3.68E+05 | 6.17E-02 | 1093.374154 | 966.88 | 1.97E-05 | 6.98E-01 | 2.38E-01 | 1.66E-01 |
| 62 | 1,660,909.01 | 693.8659445 | 0.02 | 1.08E+03 | 7.20E-01 | 3.69E+05 | 6.15E-02 | 1092.5379 | 965.95 | 1.96E-05 | 7.00E-01 | 2.38E-01 | 1.67E-01 |
| 63 | 1,687,697.87 | 696.8708074 | 0.02 | 1.08E+03 | 7.18E-01 | 3.71E+05 | 6.12E-02 | 1091.693037 | 965.01 | 1.96E-05 | 7.02E-01 | 2.38E-01 | 1.67E-01 |
| 64 | 1,714,486.72 | 699.8410545 | 0.02 | 1.07E+03 | 7.16E-01 | 3.72E+05 | 6.10E-02 | 1090.840094 | 964.06 | 1.95E-05 | 7.03E-01 | 2.39E-01 | 1.68E-01 |
| 65 | 1,741,275.58 | 702.7776162 | 0.02 | 1.07E+03 | 7.14E-01 | 3.74E+05 | 6.07E-02 | 1089.979567 | 963.10 | 1.95E-05 | 7.05E-01 | 2.39E-01 | 1.68E-01 |
| 66 | 1,768,064.43 | 705.681384 | 0.02 | 1.07E+03 | 7.13E-01 | 3.75E+05 | 6.05E-02 | 1089.11192 | 962.14 | 1.94E-05 | 7.06E-01 | 2.39E-01 | 1.69E-01 |
| 67 | 1,794,853.29 | 708.5532129 | 0.02 | 1.07E+03 | 7.11E-01 | 3.76E+05 | 6.03E-02 | 1088.23759 | 961.18 | 1.94E-05 | 7.08E-01 | 2.39E-01 | 1.69E-01 |
| 68 | 1,821,642.14 | 711.3939231 | 0.02 | 1.06E+03 | 7.09E-01 | 3.78E+05 | 6.01E-02 | 1087.356986 | 960.20 | 1.93E-05 | 7.09E-01 | 2.39E-01 | 1.70E-01 |
| 69 | 1,848,431.00 | 714.2043021 | 0.02 | 1.06E+03 | 7.07E-01 | 3.79E+05 | 5.99E-02 | 1086.470493 | 959.23 | 1.93E-05 | 7.10E-01 | 2.39E-01 | 1.70E-01 |
| 70 | 1,875,219.85 | 716.9851063 | 0.02 | 1.06E+03 | 7.06E-01 | 3.80E+05 | 5.97E-02 | 1085.578473 | 958.24 | 1.92E-05 | 7.12E-01 | 2.40E-01 | 1.70E-01 |
| 71 | 1,902,008.71 | 719.7370629 | 0.02 | 1.06E+03 | 7.04E-01 | 3.81E+05 | 5.95E-02 | 1084.681266 | 957.26 | 1.91E-05 | 7.13E-01 | 2.40E-01 | 1.71E-01 |
| 72 | 1,928,797.56 | 722.4608713 | 0.02 | 1.05E+03 | 7.02E-01 | 3.82E+05 | 5.94E-02 | 1083.779193 | 956.27 | 1.91E-05 | 7.14E-01 | 2.40E-01 | 1.71E-01 |
| 73 | 1,955,586.42 | 725.1572044 | 0.02 | 1.05E+03 | 7.01E-01 | 3.83E+05 | 5.92E-02 | 1082.872556 | 955.27 | 1.91E-05 | 7.16E-01 | 2.40E-01 | 1.72E-01 |
| 74 | 1,982,375.27 | 727.82671 | 0.02 | 1.05E+03 | 6.99E-01 | 3.84E+05 | 5.90E-02 | 1081.961639 | 954.27 | 1.90E-05 | 7.17E-01 | 2.40E-01 | 1.72E-01 |
| 75 | 2,009,164.13 | 730.4700123 | 0.02 | 1.05E+03 | 6.97E-01 | 3.85E+05 | 5.89E-02 | 1081.04671 | 953.27 | 1.90E-05 | 7.18E-01 | 2.40E-01 | 1.73E-01 |
| 76 | 2,035,952.98 | 733.0877128 | 0.02 | 1.04E+03 | 6.96E-01 | 3.86E+05 | 5.87E-02 | 1080.128023 | 952.27 | 1.89E-05 | 7.20E-01 | 2.41E-01 | 1.73E-01 |
| 77 | 2,062,741.84 | 735.6803914 | 0.02 | 1.04E+03 | 6.94E-01 | 3.87E+05 | 5.86E-02 | 1079.205816 | 951.26 | 1.89E-05 | 7.21E-01 | 2.41E-01 | 1.74E-01 |
| 78 | 2,089,530.69 | 738.2486078 | 0.02 | 1.04E+03 | 6.93E-01 | 3.88E+05 | 5.85E-02 | 1078.280316 | 950.25 | 1.88E-05 | 7.22E-01 | 2.41E-01 | 1.74E-01 |
| 79 | 2,116,319.55 | 740.7929019 | 0.02 | 1.04E+03 | 6.91E-01 | 3.89E+05 | 5.83E-02 | 1077.351735 | 949.24 | 1.88E-05 | 7.23E-01 | 2.41E-01 | 1.74E-01 |
| 80 | 2,143,108.40 | 743.3137952 | 0.02 | 1.03E+03 | 6.90E-01 | 3.90E+05 | 5.82E-02 | 1076.420274 | 948.23 | 1.87E-05 | 7.24E-01 | 2.41E-01 | 1.75E-01 |
| 81 | 2,169,897.26 | 745.8117915 | 0.02 | 1.03E+03 | 6.88E-01 | 3.91E+05 | 5.81E-02 | 1075.486126 | 947.21 | 1.87E-05 | 7.26E-01 | 2.42E-01 | 1.75E-01 |
| 82 | 2,196,686.12 | 748.2873775 | 0.02 | 1.03E+03 | 6.87E-01 | 3.91E+05 | 5.80E-02 | 1074.549469 | 946.19 | 1.86E-05 | 7.27E-01 | 2.42E-01 | 1.76E-01 |
| 83 | 2,223,474.97 | 750.7410241 | 0.02 | 1.03E+03 | 6.85E-01 | 3.92E+05 | 5.79E-02 | 1073.610475 | 945.17 | 1.86E-05 | 7.28E-01 | 2.42E-01 | 1.76E-01 |
| 84 | 2,250,263.83 | 753.1731864 | 0.02 | 1.03E+03 | 6.84E-01 | 3.93E+05 | 5.78E-02 | 1072.669305 | 944.15 | 1.86E-05 | 7.29E-01 | 2.42E-01 | 1.76E-01 |
| 85 | 2,277,052.68 | 755.5843051 | 0.02 | 1.02E+03 | 6.82E-01 | 3.93E+05 | 5.77E-02 | 1071.726112 | 943.13 | 1.85E-05 | 7.30E-01 | 2.42E-01 | 1.77E-01 |
| 86 | 2,303,841.54 | 757.9748066 | 0.02 | 1.02E+03 | 6.81E-01 | 3.94E+05 | 5.76E-02 | 1070.781042 | 942.10 | 1.85E-05 | 7.31E-01 | 2.42E-01 | 1.77E-01 |
| 87 | 2,330,630.39 | 760.345104 | 0.02 | 1.02E+03 | 6.79E-01 | 3.95E+05 | 5.75E-02 | 1069.834232 | 941.08 | 1.84E-05 | 7.32E-01 | 2.43E-01 | 1.78E-01 |
| 88 | 2,357,419.25 | 762.6955972 | 0.02 | 1.02E+03 | 6.78E-01 | 3.95E+05 | 5.74E-02 | 1068.885812 | 940.05 | 1.84E-05 | 7.33E-01 | 2.43E-01 | 1.78E-01 |
| 89 | 2,384,208.10 | 765.026674 | 0.02 | 1.01E+03 | 6.76E-01 | 3.96E+05 | 5.73E-02 | 1067.935905 | 939.03 | 1.83E-05 | 7.34E-01 | 2.43E-01 | 1.78E-01 |
| 90 | 2,410,996.96 | 767.3387103 | 0.02 | 1.01E+03 | 6.75E-01 | 3.96E+05 | 5.73E-02 | 1066.98463 | 938.00 | 1.83E-05 | 7.35E-01 | 2.43E-01 | 1.79E-01 |
| 91 | 2,437,785.81 | 769.6320706 | 0.02 | 1.01E+03 | 6.74E-01 | 3.97E+05 | 5.72E-02 | 1066.032098 | 936.97 | 1.83E-05 | 7.36E-01 | 2.43E-01 | 1.79E-01 |
| 92 | 2,464,574.67 | 771.9071085 | 0.02 | 1.01E+03 | 6.72E-01 | 3.97E+05 | 5.71E-02 | 1065.078413 | 935.94 | 1.82E-05 | 7.37E-01 | 2.44E-01 | 1.80E-01 |
| 93 | 2,491,363.52 | 774.1641672 | 0.02 | 1.01E+03 | 6.71E-01 | 3.98E+05 | 5.71E-02 | 1064.123677 | 934.91 | 1.82E-05 | 7.38E-01 | 2.44E-01 | 1.80E-01 |
| 94 | 2,518,152.38 | 776.4035799 | 0.02 | 1.00E+03 | 6.69E-01 | 3.98E+05 | 5.70E-02 | 1063.167984 | 933.88 | 1.81E-05 | 7.39E-01 | 2.44E-01 | 1.80E-01 |
| 95 | 2,544,941.23 | 778.6256701 | 0.02 | 1.00E+03 | 6.68E-01 | 3.98E+05 | 5.70E-02 | 1062.211426 | 932.85 | 1.81E-05 | 7.40E-01 | 2.44E-01 | 1.81E-01 |
| 96 | 2,571,730.09 | 780.8307519 | 0.02 | 1.00E+03 | 6.67E-01 | 3.99E+05 | 5.69E-02 | 1061.254088 | 931.82 | 1.81E-05 | 7.41E-01 | 2.44E-01 | 1.81E-01 |
| 97 | 2,598,518.94 | 783.0191308 | 0.02 | 9.98E+02 | 6.65E-01 | 3.99E+05 | 5.69E-02 | 1060.296051 | 930.79 | 1.80E-05 | 7.42E-01 | 2.45E-01 | 1.82E-01 |
| 98 | 2,625,307.80 | 785.1911034 | 0.02 | 9.96E+02 | 6.64E-01 | 4.00E+05 | 5.68E-02 | 1059.337394 | 929.76 | 1.80E-05 | 7.43E-01 | 2.45E-01 | 1.82E-01 |
| 99 | 2,652,096.65 | 787.3469585 | 0.02 | 9.94E+02 | 6.63E-01 | 4.00E+05 | 5.68E-02 | 1058.37819 | 928.73 | 1.80E-05 | 7.44E-01 | 2.45E-01 | 1.82E-01 |
| 100 | 2,678,885.51 | 789.4869765 | 0.02 | 9.92E+02 | 6.61E-01 | 4.00E+05 | 5.67E-02 | 1057.418509 | 927.70 | 1.79E-05 | 7.45E-01 | 2.45E-01 | 1.83E-01 |

Table A.1: Mach = 0.5 and Turbine Inlet Temperature = 1500

| Mach = 0.5 and Turbine Inlet Temperature = 1600 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 227.61 | | | | | | | | | | | | |
| Pt2 | 26,788.86 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=0.5 T=1600 | M=0.5 T=1600 | M=0.5 T=1600 | M=0.5 T=1600 | M=0.5 T=1600 |
| 1 | 26,788.86 | 227.6140073 | 0.03 | 1.60E+03 | 1.00E+00 | 2.68E+04 | 8.47E-01 | 381.3879253 | 246.59 | 1.33E-04 | 4.35E-02 | 5.65E-01 | 2.46E-02 |
| 2 | 53,577.71 | 274.4726381 | 0.03 | 1.56E+03 | 9.74E-01 | 4.76E+04 | 4.77E-01 | 766.3588651 | 643.32 | 4.92E-05 | 2.05E-01 | 3.24E-01 | 6.65E-02 |
| 3 | 80,366.57 | 306.2362161 | 0.03 | 1.53E+03 | 9.56E-01 | 6.57E+04 | 3.45E-01 | 891.5352784 | 771.76 | 4.00E-05 | 2.87E-01 | 2.85E-01 | 8.18E-02 |
| 4 | 107,155.42 | 330.9780009 | 0.03 | 1.51E+03 | 9.42E-01 | 8.21E+04 | 2.77E-01 | 959.6627939 | 841.42 | 3.60E-05 | 3.40E-01 | 2.67E-01 | 9.10E-02 |
| 5 | 133,944.28 | 351.537699 | 0.03 | 1.49E+03 | 9.31E-01 | 9.71E+04 | 2.34E-01 | 1003.604916 | 886.18 | 3.36E-05 | 3.79E-01 | 2.57E-01 | 9.74E-02 |
| 6 | 160,733.13 | 369.2807097 | 0.03 | 1.47E+03 | 9.21E-01 | 1.11E+05 | 2.05E-01 | 1034.619911 | 917.67 | 3.20E-05 | 4.09E-01 | 2.50E-01 | 1.02E-01 |
| 7 | 187,521.99 | 384.97909 | 0.03 | 1.46E+03 | 9.12E-01 | 1.24E+05 | 1.83E-01 | 1057.777855 | 941.10 | 3.08E-05 | 4.33E-01 | 2.45E-01 | 1.06E-01 |
| 8 | 214,310.84 | 399.1160569 | 0.03 | 1.45E+03 | 9.04E-01 | 1.36E+05 | 1.67E-01 | 1075.74698 | 959.22 | 2.98E-05 | 4.54E-01 | 2.42E-01 | 1.10E-01 |
| 9 | 241,099.70 | 412.0160319 | 0.03 | 1.44E+03 | 8.97E-01 | 1.48E+05 | 1.54E-01 | 1090.083351 | 973.62 | 2.91E-05 | 4.71E-01 | 2.39E-01 | 1.13E-01 |
| 10 | 267,888.55 | 423.9083561 | 0.03 | 1.42E+03 | 8.90E-01 | 1.59E+05 | 1.43E-01 | 1101.763513 | 985.32 | 2.84E-05 | 4.86E-01 | 2.37E-01 | 1.15E-01 |
| 11 | 294,677.41 | 434.9617065 | 0.03 | 1.41E+03 | 8.84E-01 | 1.69E+05 | 1.34E-01 | 1111.435122 | 994.96 | 2.79E-05 | 5.00E-01 | 2.35E-01 | 1.17E-01 |
| 12 | 321,466.26 | 445.3040998 | 0.03 | 1.41E+03 | 8.78E-01 | 1.79E+05 | 1.27E-01 | 1119.546667 | 1,003.01 | 2.74E-05 | 5.12E-01 | 2.33E-01 | 1.19E-01 |
| 13 | 348,255.12 | 455.0352064 | 0.03 | 1.40E+03 | 8.73E-01 | 1.89E+05 | 1.20E-01 | 1126.419692 | 1,009.80 | 2.70E-05 | 5.23E-01 | 2.32E-01 | 1.21E-01 |
| 14 | 375,043.97 | 464.2342874 | 0.03 | 1.39E+03 | 8.68E-01 | 1.98E+05 | 1.15E-01 | 1132.29141 | 1,015.58 | 2.66E-05 | 5.33E-01 | 2.31E-01 | 1.23E-01 |
| 15 | 401,832.83 | 472.9655088 | 0.03 | 1.38E+03 | 8.63E-01 | 2.06E+05 | 1.10E-01 | 1137.341055 | 1,020.52 | 2.63E-05 | 5.42E-01 | 2.30E-01 | 1.25E-01 |
| 16 | 428,621.68 | 481.2816152 | 0.03 | 1.37E+03 | 8.58E-01 | 2.15E+05 | 1.06E-01 | 1141.70683 | 1,024.78 | 2.60E-05 | 5.50E-01 | 2.29E-01 | 1.26E-01 |
| 17 | 455,410.54 | 489.2265382 | 0.03 | 1.37E+03 | 8.54E-01 | 2.23E+05 | 1.02E-01 | 1145.497186 | 1,028.44 | 2.57E-05 | 5.57E-01 | 2.29E-01 | 1.27E-01 |
| 18 | 482,199.39 | 496.837293 | 0.03 | 1.36E+03 | 8.49E-01 | 2.30E+05 | 9.85E-02 | 1148.798527 | 1,031.62 | 2.54E-05 | 5.65E-01 | 2.28E-01 | 1.29E-01 |
| 19 | 508,988.25 | 504.1453859 | 0.03 | 1.35E+03 | 8.45E-01 | 2.38E+05 | 9.54E-02 | 1151.680618 | 1,034.37 | 2.52E-05 | 5.71E-01 | 2.28E-01 | 1.30E-01 |
| 20 | 535,777.10 | 511.1778763 | 0.03 | 1.35E+03 | 8.41E-01 | 2.45E+05 | 9.26E-02 | 1154.200459 | 1,036.76 | 2.50E-05 | 5.78E-01 | 2.27E-01 | 1.31E-01 |
| 21 | 562,565.96 | 517.9581926 | 0.03 | 1.34E+03 | 8.37E-01 | 2.52E+05 | 9.00E-02 | 1156.405114 | 1,038.83 | 2.47E-05 | 5.83E-01 | 2.27E-01 | 1.32E-01 |
| 22 | 589,354.81 | 524.506767 | 0.03 | 1.33E+03 | 8.34E-01 | 2.59E+05 | 8.77E-02 | 1158.333809 | 1,040.62 | 2.46E-05 | 5.89E-01 | 2.26E-01 | 1.33E-01 |
| 23 | 616,143.67 | 530.8415355 | 0.03 | 1.33E+03 | 8.30E-01 | 2.65E+05 | 8.56E-02 | 1160.019522 | 1,042.17 | 2.44E-05 | 5.94E-01 | 2.26E-01 | 1.34E-01 |
| 24 | 642,932.52 | 536.9783368 | 0.03 | 1.32E+03 | 8.27E-01 | 2.72E+05 | 8.36E-02 | 1161.490188 | 1,043.50 | 2.42E-05 | 5.99E-01 | 2.26E-01 | 1.35E-01 |
| 25 | 669,721.38 | 542.9312339 | 0.03 | 1.32E+03 | 8.23E-01 | 2.78E+05 | 8.17E-02 | 1162.76964 | 1,044.65 | 2.40E-05 | 6.04E-01 | 2.26E-01 | 1.36E-01 |
| 26 | 696,510.23 | 548.712775 | 0.02 | 1.31E+03 | 8.20E-01 | 2.84E+05 | 8.00E-02 | 1163.87834 | 1,045.62 | 2.39E-05 | 6.09E-01 | 2.25E-01 | 1.37E-01 |
| 27 | 723,299.09 | 554.3342086 | 0.02 | 1.31E+03 | 8.17E-01 | 2.89E+05 | 7.85E-02 | 1164.833963 | 1,046.44 | 2.37E-05 | 6.13E-01 | 2.25E-01 | 1.38E-01 |
| 28 | 750,087.94 | 559.8056601 | 0.02 | 1.30E+03 | 8.14E-01 | 2.95E+05 | 7.70E-02 | 1165.651857 | 1,047.12 | 2.36E-05 | 6.17E-01 | 2.25E-01 | 1.39E-01 |
| 29 | 776,876.80 | 565.1362801 | 0.02 | 1.30E+03 | 8.11E-01 | 3.00E+05 | 7.56E-02 | 1166.345418 | 1,047.68 | 2.34E-05 | 6.21E-01 | 2.25E-01 | 1.40E-01 |
| 30 | 803,665.65 | 570.3343679 | 0.02 | 1.29E+03 | 8.08E-01 | 3.05E+05 | 7.43E-02 | 1166.926391 | 1,048.12 | 2.33E-05 | 6.25E-01 | 2.25E-01 | 1.40E-01 |
| 31 | 830,454.51 | 575.4074766 | 0.02 | 1.29E+03 | 8.05E-01 | 3.10E+05 | 7.31E-02 | 1167.405121 | 1,048.47 | 2.32E-05 | 6.28E-01 | 2.25E-01 | 1.41E-01 |
| 32 | 857,243.36 | 580.3625015 | 0.02 | 1.28E+03 | 8.02E-01 | 3.15E+05 | 7.20E-02 | 1167.790754 | 1,048.72 | 2.31E-05 | 6.32E-01 | 2.25E-01 | 1.42E-01 |
| 33 | 884,032.22 | 585.2057558 | 0.02 | 1.28E+03 | 7.99E-01 | 3.20E+05 | 7.09E-02 | 1168.091407 | 1,048.89 | 2.29E-05 | 6.35E-01 | 2.25E-01 | 1.43E-01 |
| 34 | 910,821.07 | 589.9430365 | 0.02 | 1.27E+03 | 7.97E-01 | 3.25E+05 | 6.99E-02 | 1168.31431 | 1,048.99 | 2.28E-05 | 6.38E-01 | 2.25E-01 | 1.43E-01 |
| 35 | 937,609.93 | 594.5796794 | 0.02 | 1.27E+03 | 7.94E-01 | 3.29E+05 | 6.89E-02 | 1168.465924 | 1,049.01 | 2.27E-05 | 6.42E-01 | 2.25E-01 | 1.44E-01 |
| 36 | 964,398.78 | 599.1206086 | 0.02 | 1.27E+03 | 7.92E-01 | 3.34E+05 | 6.80E-02 | 1168.55204 | 1,048.97 | 2.26E-05 | 6.45E-01 | 2.25E-01 | 1.45E-01 |
| 37 | 991,187.64 | 603.5703783 | 0.02 | 1.26E+03 | 7.89E-01 | 3.38E+05 | 6.72E-02 | 1168.577864 | 1,048.87 | 2.25E-05 | 6.47E-01 | 2.25E-01 | 1.45E-01 |
| 38 | 1,017,976.49 | 607.93321 | 0.02 | 1.26E+03 | 7.87E-01 | 3.42E+05 | 6.64E-02 | 1168.54809 | 1,048.71 | 2.24E-05 | 6.50E-01 | 2.25E-01 | 1.46E-01 |
| 39 | 1,044,765.35 | 612.2130246 | 0.02 | 1.25E+03 | 7.84E-01 | 3.46E+05 | 6.56E-02 | 1168.46696 | 1,048.51 | 2.23E-05 | 6.53E-01 | 2.25E-01 | 1.47E-01 |
| 40 | 1,071,554.20 | 616.413471 | 0.02 | 1.25E+03 | 7.82E-01 | 3.50E+05 | 6.48E-02 | 1168.338317 | 1,048.25 | 2.22E-05 | 6.56E-01 | 2.25E-01 | 1.47E-01 |
| 41 | 1,098,343.06 | 620.5379513 | 0.02 | 1.25E+03 | 7.79E-01 | 3.54E+05 | 6.41E-02 | 1168.165651 | 1,047.96 | 2.21E-05 | 6.58E-01 | 2.25E-01 | 1.48E-01 |
| 42 | 1,125,131.91 | 624.5896432 | 0.02 | 1.24E+03 | 7.77E-01 | 3.58E+05 | 6.35E-02 | 1167.95214 | 1,047.63 | 2.21E-05 | 6.61E-01 | 2.25E-01 | 1.48E-01 |
| 43 | 1,151,920.77 | 628.5715192 | 0.02 | 1.24E+03 | 7.75E-01 | 3.61E+05 | 6.28E-02 | 1167.70068 | 1,047.26 | 2.20E-05 | 6.63E-01 | 2.25E-01 | 1.49E-01 |
| 44 | 1,178,709.62 | 632.486365 | 0.02 | 1.24E+03 | 7.73E-01 | 3.65E+05 | 6.22E-02 | 1167.41392 | 1,046.85 | 2.19E-05 | 6.66E-01 | 2.25E-01 | 1.50E-01 |
| 45 | 1,205,498.48 | 636.3367946 | 0.02 | 1.23E+03 | 7.71E-01 | 3.68E+05 | 6.16E-02 | 1167.094283 | 1,046.41 | 2.18E-05 | 6.68E-01 | 2.25E-01 | 1.50E-01 |
| 46 | 1,232,287.33 | 640.1252649 | 0.02 | 1.23E+03 | 7.68E-01 | 3.72E+05 | 6.11E-02 | 1166.743995 | 1,045.95 | 2.17E-05 | 6.70E-01 | 2.25E-01 | 1.51E-01 |
| 47 | 1,259,076.19 | 643.8540878 | 0.02 | 1.23E+03 | 7.66E-01 | 3.75E+05 | 6.06E-02 | 1166.365099 | 1,045.45 | 2.16E-05 | 6.72E-01 | 2.25E-01 | 1.51E-01 |
| 48 | 1,285,865.04 | 647.5254423 | 0.02 | 1.22E+03 | 7.64E-01 | 3.78E+05 | 6.01E-02 | 1165.959474 | 1,044.93 | 2.16E-05 | 6.75E-01 | 2.25E-01 | 1.52E-01 |
| 49 | 1,312,653.90 | 651.1413842 | 0.02 | 1.22E+03 | 7.62E-01 | 3.81E+05 | 5.96E-02 | 1165.528856 | 1,044.39 | 2.15E-05 | 6.77E-01 | 2.25E-01 | 1.52E-01 |
| 50 | 1,339,442.75 | 654.7038554 | 0.02 | 1.22E+03 | 7.60E-01 | 3.84E+05 | 5.91E-02 | 1165.074844 | 1,043.82 | 2.14E-05 | 6.79E-01 | 2.25E-01 | 1.53E-01 |
| 51 | 1,366,231.61 | 658.2146929 | 0.02 | 1.21E+03 | 7.58E-01 | 3.87E+05 | 5.86E-02 | 1164.598919 | 1,043.24 | 2.14E-05 | 6.81E-01 | 2.25E-01 | 1.53E-01 |
| 52 | 1,393,020.46 | 661.6756357 | 0.02 | 1.21E+03 | 7.56E-01 | 3.90E+05 | 5.82E-02 | 1164.10245 | 1,042.63 | 2.13E-05 | 6.83E-01 | 2.25E-01 | 1.54E-01 |
| 53 | 1,419,809.32 | 665.0883325 | 0.02 | 1.21E+03 | 7.54E-01 | 3.93E+05 | 5.78E-02 | 1163.586706 | 1,042.01 | 2.12E-05 | 6.85E-01 | 2.25E-01 | 1.54E-01 |
| 54 | 1,446,598.17 | 668.4543473 | 0.02 | 1.20E+03 | 7.52E-01 | 3.95E+05 | 5.74E-02 | 1163.052868 | 1,041.37 | 2.12E-05 | 6.86E-01 | 2.25E-01 | 1.55E-01 |
| 55 | 1,473,387.03 | 671.7751657 | 0.02 | 1.20E+03 | 7.50E-01 | 3.98E+05 | 5.70E-02 | 1162.502031 | 1,040.71 | 2.11E-05 | 6.88E-01 | 2.26E-01 | 1.55E-01 |
| 56 | 1,500,175.88 | 675.0522001 | 0.02 | 1.20E+03 | 7.49E-01 | 4.01E+05 | 5.67E-02 | 1161.935213 | 1,040.04 | 2.10E-05 | 6.90E-01 | 2.26E-01 | 1.56E-01 |
| 57 | 1,526,964.74 | 678.2867945 | 0.02 | 1.19E+03 | 7.47E-01 | 4.03E+05 | 5.63E-02 | 1161.353364 | 1,039.35 | 2.10E-05 | 6.92E-01 | 2.26E-01 | 1.56E-01 |
| 58 | 1,553,753.59 | 681.4802286 | 0.02 | 1.19E+03 | 7.45E-01 | 4.06E+05 | 5.60E-02 | 1160.75737 | 1,038.65 | 2.09E-05 | 6.93E-01 | 2.26E-01 | 1.57E-01 |
| 59 | 1,580,542.45 | 684.6337228 | 0.02 | 1.19E+03 | 7.43E-01 | 4.08E+05 | 5.56E-02 | 1160.148056 | 1,037.94 | 2.08E-05 | 6.95E-01 | 2.26E-01 | 1.57E-01 |
| 60 | 1,607,331.30 | 687.7484408 | 0.02 | 1.19E+03 | 7.41E-01 | 4.10E+05 | 5.53E-02 | 1159.526195 | 1,037.21 | 2.08E-05 | 6.97E-01 | 2.26E-01 | 1.58E-01 |
| 61 | 1,634,120.16 | 690.8254941 | 0.02 | 1.18E+03 | 7.40E-01 | 4.13E+05 | 5.50E-02 | 1158.892508 | 1,036.48 | 2.07E-05 | 6.98E-01 | 2.26E-01 | 1.58E-01 |
| 62 | 1,660,909.01 | 693.8659445 | 0.02 | 1.18E+03 | 7.38E-01 | 4.15E+05 | 5.47E-02 | 1158.247673 | 1,035.74 | 2.07E-05 | 7.00E-01 | 2.26E-01 | 1.58E-01 |
| 63 | 1,687,697.87 | 696.8708074 | 0.02 | 1.18E+03 | 7.36E-01 | 4.17E+05 | 5.44E-02 | 1157.592321 | 1,034.98 | 2.06E-05 | 7.02E-01 | 2.26E-01 | 1.59E-01 |
| 64 | 1,714,486.72 | 699.8410545 | 0.02 | 1.18E+03 | 7.34E-01 | 4.19E+05 | 5.42E-02 | 1156.927048 | 1,034.22 | 2.06E-05 | 7.03E-01 | 2.26E-01 | 1.59E-01 |
| 65 | 1,741,275.58 | 702.7776162 | 0.02 | 1.17E+03 | 7.33E-01 | 4.21E+05 | 5.39E-02 | 1156.252409 | 1,033.45 | 2.05E-05 | 7.05E-01 | 2.27E-01 | 1.60E-01 |
| 66 | 1,768,064.43 | 705.681384 | 0.02 | 1.17E+03 | 7.31E-01 | 4.23E+05 | 5.36E-02 | 1155.56893 | 1,032.67 | 2.04E-05 | 7.06E-01 | 2.27E-01 | 1.60E-01 |
| 67 | 1,794,853.29 | 708.5532129 | 0.02 | 1.17E+03 | 7.30E-01 | 4.25E+05 | 5.34E-02 | 1154.877102 | 1,031.88 | 2.04E-05 | 7.07E-01 | 2.27E-01 | 1.60E-01 |
| 68 | 1,821,642.14 | 711.3939231 | 0.02 | 1.16E+03 | 7.28E-01 | 4.27E+05 | 5.32E-02 | 1154.177389 | 1,031.08 | 2.03E-05 | 7.09E-01 | 2.27E-01 | 1.61E-01 |
| 69 | 1,848,431.00 | 714.2043021 | 0.02 | 1.16E+03 | 7.26E-01 | 4.29E+05 | 5.29E-02 | 1153.470225 | 1,030.28 | 2.03E-05 | 7.10E-01 | 2.27E-01 | 1.61E-01 |
| 70 | 1,875,219.85 | 716.9851063 | 0.02 | 1.16E+03 | 7.25E-01 | 4.31E+05 | 5.27E-02 | 1152.756022 | 1,029.47 | 2.02E-05 | 7.12E-01 | 2.27E-01 | 1.62E-01 |
| 71 | 1,902,008.71 | 719.7370629 | 0.02 | 1.16E+03 | 7.23E-01 | 4.32E+05 | 5.25E-02 | 1152.035166 | 1,028.66 | 2.02E-05 | 7.13E-01 | 2.27E-01 | 1.62E-01 |
| 72 | 1,928,797.56 | 722.4608713 | 0.02 | 1.15E+03 | 7.22E-01 | 4.34E+05 | 5.23E-02 | 1151.308024 | 1,027.84 | 2.01E-05 | 7.14E-01 | 2.27E-01 | 1.62E-01 |
| 73 | 1,955,586.42 | 725.1572044 | 0.02 | 1.15E+03 | 7.20E-01 | 4.36E+05 | 5.21E-02 | 1150.574939 | 1,027.02 | 2.01E-05 | 7.16E-01 | 2.28E-01 | 1.63E-01 |
| 74 | 1,982,375.27 | 727.82671 | 0.02 | 1.15E+03 | 7.19E-01 | 4.37E+05 | 5.19E-02 | 1149.836237 | 1,026.19 | 2.01E-05 | 7.17E-01 | 2.28E-01 | 1.63E-01 |
| 75 | 2,009,164.13 | 730.4700123 | 0.02 | 1.15E+03 | 7.17E-01 | 4.39E+05 | 5.17E-02 | 1149.092226 | 1,025.36 | 2.00E-05 | 7.18E-01 | 2.28E-01 | 1.64E-01 |
| 76 | 2,035,952.98 | 733.0877128 | 0.02 | 1.14E+03 | 7.16E-01 | 4.40E+05 | 5.15E-02 | 1148.343197 | 1,024.52 | 2.00E-05 | 7.19E-01 | 2.28E-01 | 1.64E-01 |
| 77 | 2,062,741.84 | 735.6803914 | 0.02 | 1.14E+03 | 7.14E-01 | 4.42E+05 | 5.14E-02 | 1147.589424 | 1,023.68 | 1.99E-05 | 7.21E-01 | 2.28E-01 | 1.64E-01 |
| 78 | 2,089,530.69 | 738.2486078 | 0.02 | 1.14E+03 | 7.13E-01 | 4.43E+05 | 5.12E-02 | 1146.831168 | 1,022.83 | 1.99E-05 | 7.22E-01 | 2.28E-01 | 1.65E-01 |
| 79 | 2,116,319.55 | 740.7929019 | 0.02 | 1.14E+03 | 7.11E-01 | 4.45E+05 | 5.10E-02 | 1146.068676 | 1,021.98 | 1.98E-05 | 7.23E-01 | 2.28E-01 | 1.65E-01 |
| 80 | 2,143,108.40 | 743.3137952 | 0.02 | 1.14E+03 | 7.10E-01 | 4.46E+05 | 5.09E-02 | 1145.302183 | 1,021.13 | 1.98E-05 | 7.24E-01 | 2.29E-01 | 1.65E-01 |
| 81 | 2,169,897.26 | 745.8117915 | 0.02 | 1.13E+03 | 7.08E-01 | 4.48E+05 | 5.07E-02 | 1144.531908 | 1,020.27 | 1.97E-05 | 7.25E-01 | 2.29E-01 | 1.66E-01 |
| 82 | 2,196,686.12 | 748.2873775 | 0.02 | 1.13E+03 | 7.07E-01 | 4.49E+05 | 5.06E-02 | 1143.758063 | 1,019.41 | 1.97E-05 | 7.27E-01 | 2.29E-01 | 1.66E-01 |
| 83 | 2,223,474.97 | 750.7410241 | 0.02 | 1.13E+03 | 7.06E-01 | 4.50E+05 | 5.04E-02 | 1142.980847 | 1,018.55 | 1.97E-05 | 7.28E-01 | 2.29E-01 | 1.67E-01 |
| 84 | 2,250,263.83 | 753.1731864 | 0.02 | 1.13E+03 | 7.04E-01 | 4.51E+05 | 5.03E-02 | 1142.200449 | 1,017.69 | 1.96E-05 | 7.29E-01 | 2.29E-01 | 1.67E-01 |
| 85 | 2,277,052.68 | 755.5843051 | 0.02 | 1.12E+03 | 7.03E-01 | 4.53E+05 | 5.02E-02 | 1141.41705 | 1,016.82 | 1.96E-05 | 7.30E-01 | 2.29E-01 | 1.67E-01 |
| 86 | 2,303,841.54 | 757.9748066 | 0.02 | 1.12E+03 | 7.01E-01 | 4.54E+05 | 5.00E-02 | 1140.630819 | 1,015.95 | 1.95E-05 | 7.31E-01 | 2.29E-01 | 1.68E-01 |
| 87 | 2,330,630.39 | 760.345104 | 0.02 | 1.12E+03 | 7.00E-01 | 4.55E+05 | 4.99E-02 | 1139.84192 | 1,015.08 | 1.95E-05 | 7.32E-01 | 2.29E-01 | 1.68E-01 |
| 88 | 2,357,419.25 | 762.6955972 | 0.02 | 1.12E+03 | 6.99E-01 | 4.56E+05 | 4.98E-02 | 1139.050506 | 1,014.21 | 1.94E-05 | 7.33E-01 | 2.30E-01 | 1.68E-01 |
| 89 | 2,384,208.10 | 765.026674 | 0.02 | 1.12E+03 | 6.97E-01 | 4.57E+05 | 4.97E-02 | 1138.256725 | 1,013.34 | 1.94E-05 | 7.34E-01 | 2.30E-01 | 1.69E-01 |
| 90 | 2,410,996.96 | 767.3387103 | 0.02 | 1.11E+03 | 6.96E-01 | 4.58E+05 | 4.95E-02 | 1137.460716 | 1,012.46 | 1.94E-05 | 7.35E-01 | 2.30E-01 | 1.69E-01 |
| 91 | 2,437,785.81 | 769.6320706 | 0.02 | 1.11E+03 | 6.95E-01 | 4.59E+05 | 4.94E-02 | 1136.662613 | 1,011.58 | 1.93E-05 | 7.36E-01 | 2.30E-01 | 1.69E-01 |
| 92 | 2,464,574.67 | 771.9071085 | 0.02 | 1.11E+03 | 6.93E-01 | 4.60E+05 | 4.93E-02 | 1135.862541 | 1,010.70 | 1.93E-05 | 7.37E-01 | 2.30E-01 | 1.70E-01 |
| 93 | 2,491,363.52 | 774.1641672 | 0.02 | 1.11E+03 | 6.92E-01 | 4.61E+05 | 4.92E-02 | 1135.060622 | 1,009.82 | 1.93E-05 | 7.38E-01 | 2.30E-01 | 1.70E-01 |
| 94 | 2,518,152.38 | 776.4035799 | 0.02 | 1.11E+03 | 6.91E-01 | 4.62E+05 | 4.91E-02 | 1134.25697 | 1,008.94 | 1.92E-05 | 7.39E-01 | 2.30E-01 | 1.70E-01 |
| 95 | 2,544,941.23 | 778.6256701 | 0.02 | 1.10E+03 | 6.90E-01 | 4.63E+05 | 4.90E-02 | 1133.451695 | 1,008.06 | 1.92E-05 | 7.40E-01 | 2.31E-01 | 1.71E-01 |
| 96 | 2,571,730.09 | 780.8307519 | 0.02 | 1.10E+03 | 6.88E-01 | 4.64E+05 | 4.89E-02 | 1132.644901 | 1,007.18 | 1.91E-05 | 7.41E-01 | 2.31E-01 | 1.71E-01 |
| 97 | 2,598,518.94 | 783.0191308 | 0.02 | 1.10E+03 | 6.87E-01 | 4.65E+05 | 4.89E-02 | 1131.836688 | 1,006.29 | 1.91E-05 | 7.42E-01 | 2.31E-01 | 1.71E-01 |
| 98 | 2,625,307.80 | 785.1911034 | 0.02 | 1.10E+03 | 6.86E-01 | 4.65E+05 | 4.88E-02 | 1131.027151 | 1,005.41 | 1.91E-05 | 7.43E-01 | 2.31E-01 | 1.72E-01 |
| 99 | 2,652,096.65 | 787.3469585 | 0.02 | 1.10E+03 | 6.85E-01 | 4.66E+05 | 4.87E-02 | 1130.21638 | 1,004.52 | 1.90E-05 | 7.44E-01 | 2.31E-01 | 1.72E-01 |
| 100 | 2,678,885.51 | 789.4869765 | 0.02 | 1.09E+03 | 6.83E-01 | 4.67E+05 | 4.86E-02 | 1129.404462 | 1,003.63 | 1.90E-05 | 7.45E-01 | 2.31E-01 | 1.72E-01 |

Table A.2: Mach = 0.5 and Turbine Inlet Temperature = 1600

| Mach = 0.5 and Turbine Inlet Temperature = 1700 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 227.61 | | | | | | | | | | | | |
| Pt2 | 26,788.86 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=0.5 T=1700 | M=0.5 T=1700 | M=0.5 T=1700 | M=0.5 T=1700 | M=0.5 T=1700 |
| 1 | 26,788.86 | 227.6140073 | 0.04 | 1.70E+03 | 1.00E+00 | 2.68E+04 | 8.47E-01 | 393.1256751 | 259.69 | 1.36E-04 | 4.35E-02 | 5.53E-01 | 2.41E-02 |
| 2 | 53,577.71 | 274.4726381 | 0.03 | 1.66E+03 | 9.76E-01 | 4.79E+04 | 4.73E-01 | 794.1264444 | 673.93 | 5.07E-05 | 2.05E-01 | 3.15E-01 | 6.46E-02 |
| 3 | 80,366.57 | 306.2362161 | 0.03 | 1.63E+03 | 9.59E-01 | 6.66E+04 | 3.41E-01 | 924.9485187 | 808.50 | 4.13E-05 | 2.87E-01 | 2.76E-01 | 7.93E-02 |
| 4 | 107,155.42 | 330.9780009 | 0.03 | 1.61E+03 | 9.46E-01 | 8.35E+04 | 2.72E-01 | 996.4526009 | 881.79 | 3.72E-05 | 3.40E-01 | 2.59E-01 | 8.81E-02 |
| 5 | 133,944.28 | 351.537699 | 0.03 | 1.59E+03 | 9.35E-01 | 9.91E+04 | 2.29E-01 | 1042.774913 | 929.10 | 3.47E-05 | 3.79E-01 | 2.49E-01 | 9.43E-02 |
| 6 | 160,733.13 | 369.2807097 | 0.03 | 1.57E+03 | 9.26E-01 | 1.14E+05 | 2.00E-01 | 1075.617841 | 962.54 | 3.31E-05 | 4.09E-01 | 2.42E-01 | 9.90E-02 |
| 7 | 187,521.99 | 384.97909 | 0.03 | 1.56E+03 | 9.18E-01 | 1.27E+05 | 1.78E-01 | 1100.255998 | 987.54 | 3.18E-05 | 4.34E-01 | 2.37E-01 | 1.03E-01 |
| 8 | 214,310.84 | 399.1160569 | 0.03 | 1.55E+03 | 9.10E-01 | 1.40E+05 | 1.62E-01 | 1119.46775 | 1,006.96 | 3.09E-05 | 4.54E-01 | 2.34E-01 | 1.06E-01 |
| 9 | 241,099.70 | 412.0160319 | 0.03 | 1.54E+03 | 9.03E-01 | 1.53E+05 | 1.49E-01 | 1134.874865 | 1,022.49 | 3.01E-05 | 4.72E-01 | 2.31E-01 | 1.09E-01 |
| 10 | 267,888.55 | 423.9083561 | 0.03 | 1.52E+03 | 8.97E-01 | 1.64E+05 | 1.38E-01 | 1147.496046 | 1,035.17 | 2.94E-05 | 4.87E-01 | 2.28E-01 | 1.11E-01 |
| 11 | 294,677.41 | 434.9617065 | 0.03 | 1.52E+03 | 8.91E-01 | 1.75E+05 | 1.29E-01 | 1158.007518 | 1,045.68 | 2.89E-05 | 5.00E-01 | 2.27E-01 | 1.13E-01 |
| 12 | 321,466.26 | 445.3040998 | 0.03 | 1.51E+03 | 8.86E-01 | 1.86E+05 | 1.22E-01 | 1166.877977 | 1,054.53 | 2.84E-05 | 5.12E-01 | 2.25E-01 | 1.15E-01 |
| 13 | 348,255.12 | 455.0352064 | 0.03 | 1.50E+03 | 8.81E-01 | 1.96E+05 | 1.16E-01 | 1174.443756 | 1,062.04 | 2.80E-05 | 5.23E-01 | 2.24E-01 | 1.17E-01 |
| 14 | 375,043.97 | 464.2342874 | 0.03 | 1.49E+03 | 8.76E-01 | 2.06E+05 | 1.10E-01 | 1180.9532 | 1,068.48 | 2.76E-05 | 5.33E-01 | 2.23E-01 | 1.19E-01 |
| 15 | 401,832.83 | 472.9655088 | 0.03 | 1.48E+03 | 8.71E-01 | 2.16E+05 | 1.05E-01 | 1186.59412 | 1,074.03 | 2.73E-05 | 5.42E-01 | 2.22E-01 | 1.20E-01 |
| 16 | 428,621.68 | 481.2816152 | 0.03 | 1.47E+03 | 8.67E-01 | 2.25E+05 | 1.01E-01 | 1191.511465 | 1,078.85 | 2.69E-05 | 5.50E-01 | 2.21E-01 | 1.21E-01 |
| 17 | 455,410.54 | 489.2265382 | 0.03 | 1.47E+03 | 8.63E-01 | 2.34E+05 | 9.72E-02 | 1195.819076 | 1,083.05 | 2.67E-05 | 5.58E-01 | 2.20E-01 | 1.23E-01 |
| 18 | 482,199.39 | 496.837293 | 0.03 | 1.46E+03 | 8.59E-01 | 2.42E+05 | 9.38E-02 | 1199.607736 | 1,086.72 | 2.64E-05 | 5.65E-01 | 2.19E-01 | 1.24E-01 |
| 19 | 508,988.25 | 504.1453859 | 0.03 | 1.45E+03 | 8.55E-01 | 2.50E+05 | 9.07E-02 | 1202.950809 | 1,089.95 | 2.62E-05 | 5.72E-01 | 2.19E-01 | 1.25E-01 |
| 20 | 535,777.10 | 511.1778763 | 0.03 | 1.45E+03 | 8.51E-01 | 2.58E+05 | 8.79E-02 | 1205.90829 | 1,092.78 | 2.59E-05 | 5.78E-01 | 2.18E-01 | 1.26E-01 |
| 21 | 562,565.96 | 517.9581926 | 0.03 | 1.44E+03 | 8.47E-01 | 2.66E+05 | 8.53E-02 | 1208.529757 | 1,095.27 | 2.57E-05 | 5.84E-01 | 2.18E-01 | 1.27E-01 |
| 22 | 589,354.81 | 524.506767 | 0.03 | 1.43E+03 | 8.44E-01 | 2.74E+05 | 8.30E-02 | 1210.856574 | 1,097.47 | 2.55E-05 | 5.89E-01 | 2.18E-01 | 1.28E-01 |
| 23 | 616,143.67 | 530.8415355 | 0.03 | 1.43E+03 | 8.41E-01 | 2.81E+05 | 8.08E-02 | 1212.923542 | 1,099.41 | 2.53E-05 | 5.94E-01 | 2.17E-01 | 1.29E-01 |
| 24 | 642,932.52 | 536.9783368 | 0.03 | 1.42E+03 | 8.37E-01 | 2.88E+05 | 7.88E-02 | 1214.76017 | 1,101.11 | 2.52E-05 | 5.99E-01 | 2.17E-01 | 1.30E-01 |
| 25 | 669,721.38 | 542.9312339 | 0.03 | 1.42E+03 | 8.34E-01 | 2.95E+05 | 7.70E-02 | 1216.391655 | 1,102.61 | 2.50E-05 | 6.04E-01 | 2.17E-01 | 1.31E-01 |
| 26 | 696,510.23 | 548.712775 | 0.03 | 1.41E+03 | 8.31E-01 | 3.01E+05 | 7.53E-02 | 1217.839651 | 1,103.93 | 2.48E-05 | 6.09E-01 | 2.17E-01 | 1.32E-01 |
| 27 | 723,299.09 | 554.3342086 | 0.03 | 1.41E+03 | 8.28E-01 | 3.08E+05 | 7.37E-02 | 1219.122878 | 1,105.08 | 2.47E-05 | 6.13E-01 | 2.16E-01 | 1.33E-01 |
| 28 | 750,087.94 | 559.8056601 | 0.03 | 1.40E+03 | 8.25E-01 | 3.14E+05 | 7.22E-02 | 1220.257609 | 1,106.08 | 2.45E-05 | 6.17E-01 | 2.16E-01 | 1.33E-01 |
| 29 | 776,876.80 | 565.1362801 | 0.03 | 1.40E+03 | 8.22E-01 | 3.20E+05 | 7.09E-02 | 1221.258057 | 1,106.95 | 2.44E-05 | 6.21E-01 | 2.16E-01 | 1.34E-01 |
| 30 | 803,665.65 | 570.3343679 | 0.03 | 1.39E+03 | 8.20E-01 | 3.26E+05 | 6.96E-02 | 1222.136698 | 1,107.70 | 2.43E-05 | 6.25E-01 | 2.16E-01 | 1.35E-01 |
| 31 | 830,454.51 | 575.4074766 | 0.03 | 1.39E+03 | 8.17E-01 | 3.32E+05 | 6.83E-02 | 1222.904529 | 1,108.33 | 2.42E-05 | 6.28E-01 | 2.16E-01 | 1.36E-01 |
| 32 | 857,243.36 | 580.3625015 | 0.03 | 1.38E+03 | 8.14E-01 | 3.38E+05 | 6.72E-02 | 1223.571283 | 1,108.87 | 2.40E-05 | 6.32E-01 | 2.16E-01 | 1.36E-01 |
| 33 | 884,032.22 | 585.2057558 | 0.03 | 1.38E+03 | 8.12E-01 | 3.43E+05 | 6.61E-02 | 1224.145605 | 1,109.31 | 2.39E-05 | 6.35E-01 | 2.15E-01 | 1.37E-01 |
| 34 | 910,821.07 | 589.9430365 | 0.03 | 1.38E+03 | 8.09E-01 | 3.49E+05 | 6.51E-02 | 1224.635204 | 1,109.67 | 2.38E-05 | 6.38E-01 | 2.15E-01 | 1.38E-01 |
| 35 | 937,609.93 | 594.5796794 | 0.03 | 1.37E+03 | 8.07E-01 | 3.54E+05 | 6.41E-02 | 1225.046974 | 1,109.96 | 2.37E-05 | 6.42E-01 | 2.15E-01 | 1.38E-01 |
| 36 | 964,398.78 | 599.1206086 | 0.03 | 1.37E+03 | 8.04E-01 | 3.59E+05 | 6.32E-02 | 1225.387101 | 1,110.17 | 2.36E-05 | 6.45E-01 | 2.15E-01 | 1.39E-01 |
| 37 | 991,187.64 | 603.5703783 | 0.03 | 1.36E+03 | 8.02E-01 | 3.64E+05 | 6.23E-02 | 1225.661152 | 1,110.32 | 2.35E-05 | 6.48E-01 | 2.15E-01 | 1.39E-01 |
| 38 | 1,017,976.49 | 607.93321 | 0.03 | 1.36E+03 | 8.00E-01 | 3.69E+05 | 6.15E-02 | 1225.874149 | 1,110.40 | 2.34E-05 | 6.50E-01 | 2.15E-01 | 1.40E-01 |
| 39 | 1,044,765.35 | 612.2130246 | 0.03 | 1.36E+03 | 7.97E-01 | 3.74E+05 | 6.07E-02 | 1226.030639 | 1,110.44 | 2.33E-05 | 6.53E-01 | 2.15E-01 | 1.41E-01 |
| 40 | 1,071,554.20 | 616.413471 | 0.03 | 1.35E+03 | 7.95E-01 | 3.78E+05 | 6.00E-02 | 1226.134742 | 1,110.42 | 2.32E-05 | 6.56E-01 | 2.15E-01 | 1.41E-01 |
| 41 | 1,098,343.06 | 620.5379513 | 0.03 | 1.35E+03 | 7.93E-01 | 3.83E+05 | 5.93E-02 | 1226.190204 | 1,110.35 | 2.31E-05 | 6.58E-01 | 2.15E-01 | 1.42E-01 |
| 42 | 1,125,131.91 | 624.5896432 | 0.03 | 1.34E+03 | 7.91E-01 | 3.87E+05 | 5.86E-02 | 1226.200441 | 1,110.24 | 2.30E-05 | 6.61E-01 | 2.15E-01 | 1.42E-01 |
| 43 | 1,151,920.77 | 628.5715192 | 0.03 | 1.34E+03 | 7.89E-01 | 3.92E+05 | 5.79E-02 | 1226.168568 | 1,110.09 | 2.29E-05 | 6.63E-01 | 2.15E-01 | 1.43E-01 |
| 44 | 1,178,709.62 | 632.486365 | 0.03 | 1.34E+03 | 7.87E-01 | 3.96E+05 | 5.73E-02 | 1226.097438 | 1,109.89 | 2.29E-05 | 6.66E-01 | 2.15E-01 | 1.43E-01 |
| 45 | 1,205,498.48 | 636.3367946 | 0.03 | 1.33E+03 | 7.85E-01 | 4.00E+05 | 5.67E-02 | 1225.989662 | 1,109.67 | 2.28E-05 | 6.68E-01 | 2.15E-01 | 1.44E-01 |
| 46 | 1,232,287.33 | 640.1252649 | 0.03 | 1.33E+03 | 7.83E-01 | 4.04E+05 | 5.61E-02 | 1225.847642 | 1,109.41 | 2.27E-05 | 6.70E-01 | 2.15E-01 | 1.44E-01 |
| 47 | 1,259,076.19 | 643.8540878 | 0.03 | 1.33E+03 | 7.81E-01 | 4.08E+05 | 5.56E-02 | 1225.673585 | 1,109.12 | 2.26E-05 | 6.72E-01 | 2.15E-01 | 1.45E-01 |
| 48 | 1,285,865.04 | 647.5254423 | 0.02 | 1.32E+03 | 7.79E-01 | 4.12E+05 | 5.51E-02 | 1225.469524 | 1,108.80 | 2.25E-05 | 6.75E-01 | 2.15E-01 | 1.45E-01 |
| 49 | 1,312,653.90 | 651.1413842 | 0.02 | 1.32E+03 | 7.77E-01 | 4.16E+05 | 5.46E-02 | 1225.237336 | 1,108.45 | 2.25E-05 | 6.77E-01 | 2.15E-01 | 1.46E-01 |
| 50 | 1,339,442.75 | 654.7038554 | 0.02 | 1.32E+03 | 7.75E-01 | 4.20E+05 | 5.41E-02 | 1224.978757 | 1,108.08 | 2.24E-05 | 6.79E-01 | 2.15E-01 | 1.46E-01 |
| 51 | 1,366,231.61 | 658.2146929 | 0.02 | 1.31E+03 | 7.73E-01 | 4.23E+05 | 5.36E-02 | 1224.695391 | 1,107.68 | 2.23E-05 | 6.81E-01 | 2.15E-01 | 1.47E-01 |
| 52 | 1,393,020.46 | 661.6756357 | 0.02 | 1.31E+03 | 7.71E-01 | 4.27E+05 | 5.32E-02 | 1224.388727 | 1,107.27 | 2.23E-05 | 6.83E-01 | 2.15E-01 | 1.47E-01 |
| 53 | 1,419,809.32 | 665.0883325 | 0.02 | 1.31E+03 | 7.69E-01 | 4.30E+05 | 5.28E-02 | 1224.060145 | 1,106.83 | 2.22E-05 | 6.84E-01 | 2.15E-01 | 1.47E-01 |
| 54 | 1,446,598.17 | 668.4543473 | 0.02 | 1.30E+03 | 7.67E-01 | 4.34E+05 | 5.23E-02 | 1223.71093 | 1,106.37 | 2.21E-05 | 6.86E-01 | 2.16E-01 | 1.48E-01 |
| 55 | 1,473,387.03 | 671.7751657 | 0.02 | 1.30E+03 | 7.66E-01 | 4.37E+05 | 5.19E-02 | 1223.342274 | 1,105.89 | 2.21E-05 | 6.88E-01 | 2.16E-01 | 1.48E-01 |
| 56 | 1,500,175.88 | 675.0522001 | 0.02 | 1.30E+03 | 7.64E-01 | 4.40E+05 | 5.16E-02 | 1222.955291 | 1,105.40 | 2.20E-05 | 6.90E-01 | 2.16E-01 | 1.49E-01 |
| 57 | 1,526,964.74 | 678.2867945 | 0.02 | 1.30E+03 | 7.62E-01 | 4.43E+05 | 5.12E-02 | 1222.551018 | 1,104.89 | 2.19E-05 | 6.92E-01 | 2.16E-01 | 1.49E-01 |
| 58 | 1,553,753.59 | 681.4802286 | 0.02 | 1.29E+03 | 7.61E-01 | 4.47E+05 | 5.08E-02 | 1222.130422 | 1,104.36 | 2.19E-05 | 6.93E-01 | 2.16E-01 | 1.50E-01 |
| 59 | 1,580,542.45 | 684.6337228 | 0.02 | 1.29E+03 | 7.59E-01 | 4.50E+05 | 5.05E-02 | 1221.69441 | 1,103.82 | 2.18E-05 | 6.95E-01 | 2.16E-01 | 1.50E-01 |
| 60 | 1,607,331.30 | 687.7484408 | 0.02 | 1.29E+03 | 7.57E-01 | 4.53E+05 | 5.01E-02 | 1221.243827 | 1,103.26 | 2.18E-05 | 6.97E-01 | 2.16E-01 | 1.50E-01 |
| 61 | 1,634,120.16 | 690.8254941 | 0.02 | 1.28E+03 | 7.56E-01 | 4.56E+05 | 4.98E-02 | 1220.779467 | 1,102.70 | 2.17E-05 | 6.98E-01 | 2.16E-01 | 1.51E-01 |
| 62 | 1,660,909.01 | 693.8659445 | 0.02 | 1.28E+03 | 7.54E-01 | 4.58E+05 | 4.95E-02 | 1220.302072 | 1,102.12 | 2.17E-05 | 7.00E-01 | 2.16E-01 | 1.51E-01 |
| 63 | 1,687,697.87 | 696.8708074 | 0.02 | 1.28E+03 | 7.52E-01 | 4.61E+05 | 4.92E-02 | 1219.812341 | 1,101.52 | 2.16E-05 | 7.01E-01 | 2.16E-01 | 1.52E-01 |
| 64 | 1,714,486.72 | 699.8410545 | 0.02 | 1.28E+03 | 7.51E-01 | 4.64E+05 | 4.89E-02 | 1219.310926 | 1,100.92 | 2.15E-05 | 7.03E-01 | 2.16E-01 | 1.52E-01 |
| 65 | 1,741,275.58 | 702.7776162 | 0.02 | 1.27E+03 | 7.49E-01 | 4.67E+05 | 4.86E-02 | 1218.798445 | 1,100.31 | 2.15E-05 | 7.04E-01 | 2.16E-01 | 1.52E-01 |
| 66 | 1,768,064.43 | 705.681384 | 0.02 | 1.27E+03 | 7.48E-01 | 4.69E+05 | 4.84E-02 | 1218.275474 | 1,099.69 | 2.14E-05 | 7.06E-01 | 2.16E-01 | 1.53E-01 |
| 67 | 1,794,853.29 | 708.5532129 | 0.02 | 1.27E+03 | 7.46E-01 | 4.72E+05 | 4.81E-02 | 1217.74256 | 1,099.06 | 2.14E-05 | 7.07E-01 | 2.16E-01 | 1.53E-01 |
| 68 | 1,821,642.14 | 711.3939231 | 0.02 | 1.27E+03 | 7.45E-01 | 4.74E+05 | 4.78E-02 | 1217.200215 | 1,098.42 | 2.13E-05 | 7.09E-01 | 2.17E-01 | 1.53E-01 |
| 69 | 1,848,431.00 | 714.2043021 | 0.02 | 1.26E+03 | 7.43E-01 | 4.77E+05 | 4.76E-02 | 1216.648923 | 1,097.77 | 2.13E-05 | 7.10E-01 | 2.17E-01 | 1.54E-01 |
| 70 | 1,875,219.85 | 716.9851063 | 0.02 | 1.26E+03 | 7.42E-01 | 4.79E+05 | 4.74E-02 | 1216.08914 | 1,097.11 | 2.12E-05 | 7.11E-01 | 2.17E-01 | 1.54E-01 |
| 71 | 1,902,008.71 | 719.7370629 | 0.02 | 1.26E+03 | 7.40E-01 | 4.82E+05 | 4.71E-02 | 1215.521297 | 1,096.45 | 2.12E-05 | 7.13E-01 | 2.17E-01 | 1.55E-01 |
| 72 | 1,928,797.56 | 722.4608713 | 0.02 | 1.26E+03 | 7.39E-01 | 4.84E+05 | 4.69E-02 | 1214.945802 | 1,095.78 | 2.11E-05 | 7.14E-01 | 2.17E-01 | 1.55E-01 |
| 73 | 1,955,586.42 | 725.1572044 | 0.02 | 1.25E+03 | 7.37E-01 | 4.86E+05 | 4.67E-02 | 1214.363038 | 1,095.10 | 2.11E-05 | 7.15E-01 | 2.17E-01 | 1.55E-01 |
| 74 | 1,982,375.27 | 727.82671 | 0.02 | 1.25E+03 | 7.36E-01 | 4.88E+05 | 4.65E-02 | 1213.773369 | 1,094.42 | 2.10E-05 | 7.17E-01 | 2.17E-01 | 1.56E-01 |
| 75 | 2,009,164.13 | 730.4700123 | 0.02 | 1.25E+03 | 7.34E-01 | 4.91E+05 | 4.63E-02 | 1213.177141 | 1,093.73 | 2.10E-05 | 7.18E-01 | 2.17E-01 | 1.56E-01 |
| 76 | 2,035,952.98 | 733.0877128 | 0.02 | 1.25E+03 | 7.33E-01 | 4.93E+05 | 4.61E-02 | 1212.574679 | 1,093.04 | 2.10E-05 | 7.19E-01 | 2.17E-01 | 1.56E-01 |
| 77 | 2,062,741.84 | 735.6803914 | 0.02 | 1.24E+03 | 7.32E-01 | 4.95E+05 | 4.59E-02 | 1211.966293 | 1,092.34 | 2.09E-05 | 7.20E-01 | 2.17E-01 | 1.57E-01 |
| 78 | 2,089,530.69 | 738.2486078 | 0.02 | 1.24E+03 | 7.30E-01 | 4.97E+05 | 4.57E-02 | 1211.352274 | 1,091.63 | 2.09E-05 | 7.22E-01 | 2.17E-01 | 1.57E-01 |
| 79 | 2,116,319.55 | 740.7929019 | 0.02 | 1.24E+03 | 7.29E-01 | 4.99E+05 | 4.55E-02 | 1210.732903 | 1,090.93 | 2.08E-05 | 7.23E-01 | 2.18E-01 | 1.57E-01 |
| 80 | 2,143,108.40 | 743.3137952 | 0.02 | 1.24E+03 | 7.27E-01 | 5.01E+05 | 4.53E-02 | 1210.108441 | 1,090.21 | 2.08E-05 | 7.24E-01 | 2.18E-01 | 1.58E-01 |
| 81 | 2,169,897.26 | 745.8117915 | 0.02 | 1.23E+03 | 7.26E-01 | 5.03E+05 | 4.51E-02 | 1209.479141 | 1,089.49 | 2.07E-05 | 7.25E-01 | 2.18E-01 | 1.58E-01 |
| 82 | 2,196,686.12 | 748.2873775 | 0.02 | 1.23E+03 | 7.25E-01 | 5.05E+05 | 4.50E-02 | 1208.845239 | 1,088.77 | 2.07E-05 | 7.26E-01 | 2.18E-01 | 1.58E-01 |
| 83 | 2,223,474.97 | 750.7410241 | 0.02 | 1.23E+03 | 7.24E-01 | 5.07E+05 | 4.48E-02 | 1208.206962 | 1,088.05 | 2.07E-05 | 7.27E-01 | 2.18E-01 | 1.59E-01 |
| 84 | 2,250,263.83 | 753.1731864 | 0.02 | 1.23E+03 | 7.22E-01 | 5.08E+05 | 4.47E-02 | 1207.564525 | 1,087.32 | 2.06E-05 | 7.28E-01 | 2.18E-01 | 1.59E-01 |
| 85 | 2,277,052.68 | 755.5843051 | 0.02 | 1.23E+03 | 7.21E-01 | 5.10E+05 | 4.45E-02 | 1206.918134 | 1,086.59 | 2.06E-05 | 7.30E-01 | 2.18E-01 | 1.59E-01 |
| 86 | 2,303,841.54 | 757.9748066 | 0.02 | 1.22E+03 | 7.20E-01 | 5.12E+05 | 4.43E-02 | 1206.267982 | 1,085.85 | 2.05E-05 | 7.31E-01 | 2.18E-01 | 1.59E-01 |
| 87 | 2,330,630.39 | 760.345104 | 0.02 | 1.22E+03 | 7.18E-01 | 5.13E+05 | 4.42E-02 | 1205.614256 | 1,085.11 | 2.05E-05 | 7.32E-01 | 2.18E-01 | 1.60E-01 |
| 88 | 2,357,419.25 | 762.6955972 | 0.02 | 1.22E+03 | 7.17E-01 | 5.15E+05 | 4.41E-02 | 1204.957132 | 1,084.37 | 2.05E-05 | 7.33E-01 | 2.18E-01 | 1.60E-01 |
| 89 | 2,384,208.10 | 765.026674 | 0.02 | 1.22E+03 | 7.16E-01 | 5.17E+05 | 4.39E-02 | 1204.296778 | 1,083.63 | 2.04E-05 | 7.34E-01 | 2.19E-01 | 1.60E-01 |
| 90 | 2,410,996.96 | 767.3387103 | 0.02 | 1.21E+03 | 7.15E-01 | 5.18E+05 | 4.38E-02 | 1203.633356 | 1,082.88 | 2.04E-05 | 7.35E-01 | 2.19E-01 | 1.61E-01 |
| 91 | 2,437,785.81 | 769.6320706 | 0.02 | 1.21E+03 | 7.13E-01 | 5.20E+05 | 4.37E-02 | 1202.967017 | 1,082.13 | 2.03E-05 | 7.36E-01 | 2.19E-01 | 1.61E-01 |
| 92 | 2,464,574.67 | 771.9071085 | 0.02 | 1.21E+03 | 7.12E-01 | 5.21E+05 | 4.35E-02 | 1202.29791 | 1,081.38 | 2.03E-05 | 7.37E-01 | 2.19E-01 | 1.61E-01 |
| 93 | 2,491,363.52 | 774.1641672 | 0.02 | 1.21E+03 | 7.11E-01 | 5.23E+05 | 4.34E-02 | 1201.626171 | 1,080.63 | 2.03E-05 | 7.38E-01 | 2.19E-01 | 1.62E-01 |
| 94 | 2,518,152.38 | 776.4035799 | 0.02 | 1.21E+03 | 7.10E-01 | 5.24E+05 | 4.33E-02 | 1200.951936 | 1,079.87 | 2.02E-05 | 7.39E-01 | 2.19E-01 | 1.62E-01 |
| 95 | 2,544,941.23 | 778.6256701 | 0.02 | 1.20E+03 | 7.09E-01 | 5.26E+05 | 4.32E-02 | 1200.275331 | 1,079.12 | 2.02E-05 | 7.40E-01 | 2.19E-01 | 1.62E-01 |
| 96 | 2,571,730.09 | 780.8307519 | 0.02 | 1.20E+03 | 7.07E-01 | 5.27E+05 | 4.31E-02 | 1199.596478 | 1,078.36 | 2.02E-05 | 7.41E-01 | 2.19E-01 | 1.62E-01 |
| 97 | 2,598,518.94 | 783.0191308 | 0.02 | 1.20E+03 | 7.06E-01 | 5.29E+05 | 4.29E-02 | 1198.915492 | 1,077.60 | 2.01E-05 | 7.42E-01 | 2.19E-01 | 1.63E-01 |
| 98 | 2,625,307.80 | 785.1911034 | 0.02 | 1.20E+03 | 7.05E-01 | 5.30E+05 | 4.28E-02 | 1198.232485 | 1,076.84 | 2.01E-05 | 7.43E-01 | 2.20E-01 | 1.63E-01 |
| 99 | 2,652,096.65 | 787.3469585 | 0.02 | 1.20E+03 | 7.04E-01 | 5.31E+05 | 4.27E-02 | 1197.547563 | 1,076.07 | 2.00E-05 | 7.43E-01 | 2.20E-01 | 1.63E-01 |
| 100 | 2,678,885.51 | 789.4869765 | 0.02 | 1.19E+03 | 7.03E-01 | 5.32E+05 | 4.26E-02 | 1196.860828 | 1,075.31 | 2.00E-05 | 7.44E-01 | 2.20E-01 | 1.64E-01 |

Table A.3: Mach = 0.5 and Turbine Inlet Temperature = 1700

# Appendix B

# APPENDIX B: MACH 0.85 CALCULATIONS

| Mach = 0.85 and Turbine Inlet Temperature = 1500 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 248.10 | | | | | | | | | | | | |
| Pt2 | 35,921.26 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=0.85 T=1500 | M=0.85 T=1500 | M=0.85 T=1500 | M=0.85 T=1500 | M=0.85 T=1500 |
| 1 | 35,921.26 | 248.0992679 | 0.03 | 1.50E+03 | 1.00E+00 | 3.59E+04 | 6.32E-01 | 602.9090404 | 370.48 | 8.05E-05 | 1.16E-01 | 5.95E-01 | 6.91E-02 |
| 2 | 71,842.53 | 299.1751756 | 0.03 | 1.45E+03 | 9.70E-01 | 6.25E+04 | 3.63E-01 | 851.3785899 | 625.30 | 4.57E-05 | 2.65E-01 | 4.59E-01 | 1.22E-01 |
| 3 | 107,763.79 | 333.7974756 | 0.03 | 1.42E+03 | 9.49E-01 | 8.52E+04 | 2.67E-01 | 943.4930027 | 719.25 | 3.86E-05 | 3.41E-01 | 4.23E-01 | 1.44E-01 |
| 4 | 143,685.05 | 360.7660209 | 0.03 | 1.40E+03 | 9.33E-01 | 1.05E+05 | 2.16E-01 | 994.0803209 | 770.59 | 3.52E-05 | 3.91E-01 | 4.05E-01 | 1.58E-01 |
| 5 | 179,606.32 | 383.1760919 | 0.03 | 1.38E+03 | 9.19E-01 | 1.23E+05 | 1.84E-01 | 1026.44719 | 803.27 | 3.30E-05 | 4.27E-01 | 3.95E-01 | 1.68E-01 |
| 6 | 215,527.58 | 402.5159736 | 0.03 | 1.36E+03 | 9.08E-01 | 1.39E+05 | 1.63E-01 | 1048.949937 | 825.87 | 3.16E-05 | 4.54E-01 | 3.88E-01 | 1.76E-01 |
| 7 | 251,448.84 | 419.6272081 | 0.03 | 1.35E+03 | 8.98E-01 | 1.55E+05 | 1.47E-01 | 1065.42755 | 842.34 | 3.05E-05 | 4.77E-01 | 3.83E-01 | 1.83E-01 |
| 8 | 287,370.10 | 435.036502 | 0.03 | 1.33E+03 | 8.88E-01 | 1.68E+05 | 1.35E-01 | 1077.921673 | 854.75 | 2.96E-05 | 4.96E-01 | 3.79E-01 | 1.88E-01 |
| 9 | 323,291.37 | 449.0974747 | 0.02 | 1.32E+03 | 8.80E-01 | 1.81E+05 | 1.25E-01 | 1087.629921 | 864.33 | 2.88E-05 | 5.12E-01 | 3.77E-01 | 1.93E-01 |
| 10 | 359,212.63 | 462.0601082 | 0.02 | 1.31E+03 | 8.72E-01 | 1.94E+05 | 1.17E-01 | 1095.306256 | 871.85 | 2.82E-05 | 5.27E-01 | 3.74E-01 | 1.97E-01 |
| 11 | 395,133.89 | 474.1082601 | 0.02 | 1.30E+03 | 8.65E-01 | 2.05E+05 | 1.11E-01 | 1101.451445 | 877.82 | 2.77E-05 | 5.39E-01 | 3.73E-01 | 2.01E-01 |
| 12 | 431,055.16 | 485.3814688 | 0.02 | 1.29E+03 | 8.58E-01 | 2.16E+05 | 1.05E-01 | 1106.412363 | 882.60 | 2.72E-05 | 5.50E-01 | 3.71E-01 | 2.04E-01 |
| 13 | 466,976.42 | 495.988375 | 0.02 | 1.28E+03 | 8.52E-01 | 2.26E+05 | 1.00E-01 | 1110.43757 | 886.43 | 2.68E-05 | 5.60E-01 | 3.70E-01 | 2.07E-01 |
| 14 | 502,897.68 | 506.0153733 | 0.02 | 1.27E+03 | 8.46E-01 | 2.36E+05 | 9.63E-02 | 1113.710227 | 889.51 | 2.65E-05 | 5.70E-01 | 3.69E-01 | 2.10E-01 |
| 15 | 538,818.95 | 515.5324046 | 0.02 | 1.26E+03 | 8.40E-01 | 2.45E+05 | 9.27E-02 | 1116.368504 | 891.97 | 2.61E-05 | 5.78E-01 | 3.68E-01 | 2.13E-01 |
| 16 | 574,740.21 | 524.5969606 | 0.02 | 1.25E+03 | 8.34E-01 | 2.53E+05 | 8.96E-02 | 1118.518727 | 893.93 | 2.58E-05 | 5.86E-01 | 3.68E-01 | 2.15E-01 |
| 17 | 610,661.47 | 533.2569266 | 0.02 | 1.24E+03 | 8.29E-01 | 2.62E+05 | 8.68E-02 | 1120.244138 | 895.45 | 2.56E-05 | 5.93E-01 | 3.67E-01 | 2.18E-01 |
| 18 | 646,582.74 | 541.5526494 | 0.02 | 1.24E+03 | 8.24E-01 | 2.69E+05 | 8.43E-02 | 1121.610888 | 896.62 | 2.53E-05 | 6.00E-01 | 3.67E-01 | 2.20E-01 |
| 19 | 682,504.00 | 549.5184706 | 0.02 | 1.23E+03 | 8.19E-01 | 2.77E+05 | 8.20E-02 | 1122.672238 | 897.49 | 2.51E-05 | 6.06E-01 | 3.67E-01 | 2.22E-01 |
| 20 | 718,425.26 | 557.1838851 | 0.02 | 1.22E+03 | 8.15E-01 | 2.84E+05 | 7.99E-02 | 1123.471575 | 898.10 | 2.48E-05 | 6.12E-01 | 3.66E-01 | 2.24E-01 |
| 21 | 754,346.52 | 564.5744299 | 0.02 | 1.22E+03 | 8.10E-01 | 2.91E+05 | 7.81E-02 | 1124.04461 | 898.48 | 2.46E-05 | 6.17E-01 | 3.66E-01 | 2.26E-01 |
| 22 | 790,267.79 | 571.712376 | 0.02 | 1.21E+03 | 8.06E-01 | 2.97E+05 | 7.64E-02 | 1124.421008 | 898.67 | 2.44E-05 | 6.23E-01 | 3.66E-01 | 2.28E-01 |
| 23 | 826,189.05 | 578.6172737 | 0.02 | 1.20E+03 | 8.02E-01 | 3.03E+05 | 7.48E-02 | 1124.625621 | 898.69 | 2.42E-05 | 6.27E-01 | 3.66E-01 | 2.30E-01 |
| 24 | 862,110.31 | 585.3063871 | 0.02 | 1.20E+03 | 7.98E-01 | 3.09E+05 | 7.34E-02 | 1124.679426 | 898.56 | 2.40E-05 | 6.32E-01 | 3.66E-01 | 2.31E-01 |
| 25 | 898,031.58 | 591.7950449 | 0.02 | 1.19E+03 | 7.94E-01 | 3.15E+05 | 7.21E-02 | 1124.600254 | 898.30 | 2.39E-05 | 6.37E-01 | 3.66E-01 | 2.33E-01 |
| 26 | 933,952.84 | 598.0969248 | 0.02 | 1.19E+03 | 7.90E-01 | 3.20E+05 | 7.09E-02 | 1124.403356 | 897.93 | 2.37E-05 | 6.41E-01 | 3.66E-01 | 2.35E-01 |
| 27 | 969,874.10 | 604.2242874 | 0.02 | 1.18E+03 | 7.86E-01 | 3.25E+05 | 6.97E-02 | 1124.101852 | 897.45 | 2.36E-05 | 6.45E-01 | 3.66E-01 | 2.36E-01 |
| 28 | 1,005,795.37 | 610.1881695 | 0.02 | 1.17E+03 | 7.83E-01 | 3.30E+05 | 6.87E-02 | 1123.707089 | 896.89 | 2.34E-05 | 6.49E-01 | 3.66E-01 | 2.38E-01 |
| 29 | 1,041,716.63 | 615.9985453 | 0.02 | 1.17E+03 | 7.79E-01 | 3.35E+05 | 6.77E-02 | 1123.228931 | 896.24 | 2.33E-05 | 6.53E-01 | 3.66E-01 | 2.39E-01 |
| 30 | 1,077,637.89 | 621.6644611 | 0.02 | 1.16E+03 | 7.76E-01 | 3.40E+05 | 6.68E-02 | 1122.675989 | 895.52 | 2.31E-05 | 6.56E-01 | 3.66E-01 | 2.40E-01 |
| 31 | 1,113,559.16 | 627.1941495 | 0.02 | 1.16E+03 | 7.72E-01 | 3.44E+05 | 6.60E-02 | 1122.055814 | 894.74 | 2.30E-05 | 6.60E-01 | 3.67E-01 | 2.42E-01 |
| 32 | 1,149,480.42 | 632.5951266 | 0.02 | 1.15E+03 | 7.69E-01 | 3.48E+05 | 6.52E-02 | 1121.375053 | 893.89 | 2.29E-05 | 6.63E-01 | 3.67E-01 | 2.43E-01 |
| 33 | 1,185,401.68 | 637.8742739 | 0.02 | 1.15E+03 | 7.66E-01 | 3.52E+05 | 6.44E-02 | 1120.639577 | 893.00 | 2.28E-05 | 6.66E-01 | 3.67E-01 | 2.44E-01 |
| 34 | 1,221,322.94 | 643.0379097 | 0.02 | 1.14E+03 | 7.63E-01 | 3.56E+05 | 6.37E-02 | 1119.854594 | 892.06 | 2.26E-05 | 6.69E-01 | 3.67E-01 | 2.46E-01 |
| 35 | 1,257,244.21 | 648.0918505 | 0.02 | 1.14E+03 | 7.60E-01 | 3.60E+05 | 6.31E-02 | 1119.024733 | 891.07 | 2.25E-05 | 6.72E-01 | 3.67E-01 | 2.47E-01 |
| 36 | 1,293,165.47 | 653.0414634 | 0.02 | 1.14E+03 | 7.57E-01 | 3.63E+05 | 6.25E-02 | 1118.154123 | 890.05 | 2.24E-05 | 6.75E-01 | 3.68E-01 | 2.48E-01 |
| 37 | 1,329,086.73 | 657.8917124 | 0.02 | 1.13E+03 | 7.54E-01 | 3.67E+05 | 6.19E-02 | 1117.246461 | 888.99 | 2.23E-05 | 6.78E-01 | 3.68E-01 | 2.49E-01 |
| 38 | 1,365,008.00 | 662.6471989 | 0.02 | 1.13E+03 | 7.51E-01 | 3.70E+05 | 6.13E-02 | 1116.305058 | 887.90 | 2.22E-05 | 6.81E-01 | 3.68E-01 | 2.51E-01 |
| 39 | 1,400,929.26 | 667.3121968 | 0.02 | 1.12E+03 | 7.48E-01 | 3.73E+05 | 6.08E-02 | 1115.332896 | 886.78 | 2.21E-05 | 6.83E-01 | 3.68E-01 | 2.52E-01 |
| 40 | 1,436,850.52 | 671.8906834 | 0.02 | 1.12E+03 | 7.45E-01 | 3.76E+05 | 6.03E-02 | 1114.33266 | 885.64 | 2.20E-05 | 6.86E-01 | 3.69E-01 | 2.53E-01 |
| 41 | 1,472,771.79 | 676.386367 | 0.02 | 1.11E+03 | 7.43E-01 | 3.79E+05 | 5.99E-02 | 1113.306775 | 884.47 | 2.19E-05 | 6.88E-01 | 3.69E-01 | 2.54E-01 |
| 42 | 1,508,693.05 | 680.8027111 | 0.02 | 1.11E+03 | 7.40E-01 | 3.82E+05 | 5.94E-02 | 1112.257437 | 883.28 | 2.18E-05 | 6.91E-01 | 3.69E-01 | 2.55E-01 |
| 43 | 1,544,614.31 | 685.1429559 | 0.02 | 1.11E+03 | 7.37E-01 | 3.84E+05 | 5.90E-02 | 1111.186637 | 882.07 | 2.17E-05 | 6.93E-01 | 3.69E-01 | 2.56E-01 |
| 44 | 1,580,535.57 | 689.4101378 | 0.02 | 1.10E+03 | 7.35E-01 | 3.87E+05 | 5.87E-02 | 1110.096186 | 880.85 | 2.17E-05 | 6.95E-01 | 3.70E-01 | 2.57E-01 |
| 45 | 1,616,456.84 | 693.6071061 | 0.02 | 1.10E+03 | 7.32E-01 | 3.89E+05 | 5.83E-02 | 1108.987731 | 879.60 | 2.16E-05 | 6.97E-01 | 3.70E-01 | 2.58E-01 |
| 46 | 1,652,378.10 | 697.7365387 | 0.02 | 1.09E+03 | 7.30E-01 | 3.92E+05 | 5.79E-02 | 1107.862773 | 878.34 | 2.15E-05 | 7.00E-01 | 3.70E-01 | 2.59E-01 |
| 47 | 1,688,299.36 | 701.8009558 | 0.02 | 1.09E+03 | 7.27E-01 | 3.94E+05 | 5.76E-02 | 1106.722685 | 877.07 | 2.14E-05 | 7.02E-01 | 3.71E-01 | 2.60E-01 |
| 48 | 1,724,220.63 | 705.8027322 | 0.02 | 1.09E+03 | 7.25E-01 | 3.96E+05 | 5.73E-02 | 1105.568721 | 875.79 | 2.13E-05 | 7.04E-01 | 3.71E-01 | 2.61E-01 |
| 49 | 1,760,141.89 | 709.7441087 | 0.02 | 1.08E+03 | 7.22E-01 | 3.98E+05 | 5.70E-02 | 1104.402031 | 874.49 | 2.12E-05 | 7.06E-01 | 3.71E-01 | 2.62E-01 |
| 50 | 1,796,063.15 | 713.6272024 | 0.02 | 1.08E+03 | 7.20E-01 | 4.00E+05 | 5.67E-02 | 1103.223668 | 873.19 | 2.12E-05 | 7.08E-01 | 3.72E-01 | 2.63E-01 |
| 51 | 1,831,984.42 | 717.4540152 | 0.02 | 1.08E+03 | 7.18E-01 | 4.02E+05 | 5.65E-02 | 1102.034602 | 871.88 | 2.11E-05 | 7.10E-01 | 3.72E-01 | 2.64E-01 |
| 52 | 1,867,905.68 | 721.2264429 | 0.02 | 1.07E+03 | 7.15E-01 | 4.04E+05 | 5.62E-02 | 1100.835722 | 870.55 | 2.10E-05 | 7.11E-01 | 3.72E-01 | 2.65E-01 |
| 53 | 1,903,826.94 | 724.9462824 | 0.02 | 1.07E+03 | 7.13E-01 | 4.05E+05 | 5.60E-02 | 1099.627849 | 869.22 | 2.09E-05 | 7.13E-01 | 3.73E-01 | 2.66E-01 |
| 54 | 1,939,748.21 | 728.6152385 | 0.02 | 1.07E+03 | 7.11E-01 | 4.07E+05 | 5.58E-02 | 1098.411737 | 867.89 | 2.09E-05 | 7.15E-01 | 3.73E-01 | 2.67E-01 |
| 55 | 1,975,669.47 | 732.2349306 | 0.02 | 1.06E+03 | 7.09E-01 | 4.09E+05 | 5.55E-02 | 1097.188084 | 866.54 | 2.08E-05 | 7.17E-01 | 3.73E-01 | 2.68E-01 |
| 56 | 2,011,590.73 | 735.8068982 | 0.02 | 1.06E+03 | 7.07E-01 | 4.10E+05 | 5.53E-02 | 1095.957534 | 865.20 | 2.07E-05 | 7.18E-01 | 3.74E-01 | 2.68E-01 |
| 57 | 2,047,511.99 | 739.332606 | 0.02 | 1.06E+03 | 7.04E-01 | 4.11E+05 | 5.52E-02 | 1094.720681 | 863.84 | 2.07E-05 | 7.20E-01 | 3.74E-01 | 2.69E-01 |
| 58 | 2,083,433.26 | 742.8134492 | 0.02 | 1.05E+03 | 7.02E-01 | 4.13E+05 | 5.50E-02 | 1093.478077 | 862.49 | 2.06E-05 | 7.22E-01 | 3.74E-01 | 2.70E-01 |
| 59 | 2,119,354.52 | 746.2507578 | 0.02 | 1.05E+03 | 7.00E-01 | 4.14E+05 | 5.48E-02 | 1092.230232 | 861.12 | 2.05E-05 | 7.23E-01 | 3.75E-01 | 2.71E-01 |
| 60 | 2,155,275.78 | 749.6458005 | 0.02 | 1.05E+03 | 6.98E-01 | 4.15E+05 | 5.47E-02 | 1090.977617 | 859.76 | 2.05E-05 | 7.25E-01 | 3.75E-01 | 2.72E-01 |
| 61 | 2,191,197.05 | 752.9997885 | 0.02 | 1.04E+03 | 6.96E-01 | 4.16E+05 | 5.45E-02 | 1089.720673 | 858.39 | 2.04E-05 | 7.27E-01 | 3.75E-01 | 2.73E-01 |
| 62 | 2,227,118.31 | 756.3138795 | 0.02 | 1.04E+03 | 6.94E-01 | 4.17E+05 | 5.44E-02 | 1088.459804 | 857.02 | 2.03E-05 | 7.28E-01 | 3.76E-01 | 2.73E-01 |
| 63 | 2,263,039.57 | 759.5891801 | 0.02 | 1.04E+03 | 6.92E-01 | 4.19E+05 | 5.42E-02 | 1087.19539 | 855.65 | 2.03E-05 | 7.30E-01 | 3.76E-01 | 2.74E-01 |
| 64 | 2,298,960.84 | 762.8267494 | 0.02 | 1.04E+03 | 6.90E-01 | 4.19E+05 | 5.41E-02 | 1085.927781 | 854.27 | 2.02E-05 | 7.31E-01 | 3.76E-01 | 2.75E-01 |
| 65 | 2,334,882.10 | 766.0276016 | 0.02 | 1.03E+03 | 6.88E-01 | 4.20E+05 | 5.40E-02 | 1084.657305 | 852.89 | 2.02E-05 | 7.32E-01 | 3.77E-01 | 2.76E-01 |
| 66 | 2,370,803.36 | 769.1927086 | 0.02 | 1.03E+03 | 6.86E-01 | 4.21E+05 | 5.39E-02 | 1083.384266 | 851.52 | 2.01E-05 | 7.34E-01 | 3.77E-01 | 2.77E-01 |
| 67 | 2,406,724.63 | 772.3230021 | 0.02 | 1.03E+03 | 6.84E-01 | 4.22E+05 | 5.38E-02 | 1082.108945 | 850.14 | 2.01E-05 | 7.35E-01 | 3.77E-01 | 2.78E-01 |
| 68 | 2,442,645.89 | 775.4193762 | 0.02 | 1.02E+03 | 6.82E-01 | 4.23E+05 | 5.37E-02 | 1080.831608 | 848.75 | 2.00E-05 | 7.37E-01 | 3.78E-01 | 2.78E-01 |
| 69 | 2,478,567.15 | 778.4826892 | 0.02 | 1.02E+03 | 6.81E-01 | 4.23E+05 | 5.36E-02 | 1079.552499 | 847.37 | 1.99E-05 | 7.38E-01 | 3.78E-01 | 2.79E-01 |
| 70 | 2,514,488.41 | 781.5137659 | 0.02 | 1.02E+03 | 6.79E-01 | 4.24E+05 | 5.35E-02 | 1078.271848 | 845.99 | 1.99E-05 | 7.39E-01 | 3.78E-01 | 2.80E-01 |
| 71 | 2,550,409.68 | 784.5133986 | 0.02 | 1.02E+03 | 6.77E-01 | 4.25E+05 | 5.34E-02 | 1076.989869 | 844.61 | 1.98E-05 | 7.41E-01 | 3.79E-01 | 2.81E-01 |
| 72 | 2,586,330.94 | 787.4823497 | 0.02 | 1.01E+03 | 6.75E-01 | 4.25E+05 | 5.34E-02 | 1075.706759 | 843.23 | 1.98E-05 | 7.42E-01 | 3.79E-01 | 2.81E-01 |
| 73 | 2,622,252.20 | 790.4213528 | 0.02 | 1.01E+03 | 6.73E-01 | 4.26E+05 | 5.33E-02 | 1074.422707 | 841.84 | 1.97E-05 | 7.43E-01 | 3.80E-01 | 2.82E-01 |
| 74 | 2,658,173.47 | 793.3311139 | 0.02 | 1.01E+03 | 6.71E-01 | 4.26E+05 | 5.32E-02 | 1073.137884 | 840.46 | 1.97E-05 | 7.44E-01 | 3.80E-01 | 2.83E-01 |
| 75 | 2,694,094.73 | 796.2123134 | 0.02 | 1.00E+03 | 6.70E-01 | 4.27E+05 | 5.32E-02 | 1071.852453 | 839.08 | 1.96E-05 | 7.46E-01 | 3.80E-01 | 2.84E-01 |
| 76 | 2,730,015.99 | 799.0656069 | 0.02 | 1.00E+03 | 6.68E-01 | 4.27E+05 | 5.31E-02 | 1070.566566 | 837.70 | 1.96E-05 | 7.47E-01 | 3.81E-01 | 2.84E-01 |
| 77 | 2,765,937.26 | 801.8916266 | 0.02 | 9.99E+02 | 6.66E-01 | 4.27E+05 | 5.31E-02 | 1069.280364 | 836.32 | 1.95E-05 | 7.48E-01 | 3.81E-01 | 2.85E-01 |
| 78 | 2,801,858.52 | 804.6909825 | 0.02 | 9.97E+02 | 6.65E-01 | 4.28E+05 | 5.31E-02 | 1067.993978 | 834.94 | 1.95E-05 | 7.49E-01 | 3.81E-01 | 2.86E-01 |
| 79 | 2,837,779.78 | 807.4642631 | 0.02 | 9.94E+02 | 6.63E-01 | 4.28E+05 | 5.30E-02 | 1066.707533 | 833.56 | 1.94E-05 | 7.50E-01 | 3.82E-01 | 2.87E-01 |
| 80 | 2,873,701.05 | 810.2120368 | 0.02 | 9.92E+02 | 6.61E-01 | 4.28E+05 | 5.30E-02 | 1065.421143 | 832.18 | 1.94E-05 | 7.52E-01 | 3.82E-01 | 2.87E-01 |
| 81 | 2,909,622.31 | 812.9348527 | 0.02 | 9.89E+02 | 6.60E-01 | 4.28E+05 | 5.30E-02 | 1064.134917 | 830.80 | 1.93E-05 | 7.53E-01 | 3.82E-01 | 2.88E-01 |
| 82 | 2,945,543.57 | 815.6332415 | 0.02 | 9.87E+02 | 6.58E-01 | 4.29E+05 | 5.30E-02 | 1062.848954 | 829.42 | 1.93E-05 | 7.54E-01 | 3.83E-01 | 2.89E-01 |
| 83 | 2,981,464.83 | 818.3077162 | 0.02 | 9.84E+02 | 6.56E-01 | 4.29E+05 | 5.29E-02 | 1061.563349 | 828.05 | 1.92E-05 | 7.55E-01 | 3.83E-01 | 2.89E-01 |
| 84 | 3,017,386.10 | 820.9587732 | 0.02 | 9.82E+02 | 6.55E-01 | 4.29E+05 | 5.29E-02 | 1060.278189 | 826.67 | 1.92E-05 | 7.56E-01 | 3.84E-01 | 2.90E-01 |
| 85 | 3,053,307.36 | 823.5868926 | 0.02 | 9.80E+02 | 6.53E-01 | 4.29E+05 | 5.29E-02 | 1058.993556 | 825.30 | 1.91E-05 | 7.57E-01 | 3.84E-01 | 2.91E-01 |
| 86 | 3,089,228.62 | 826.1925392 | 0.02 | 9.77E+02 | 6.51E-01 | 4.29E+05 | 5.29E-02 | 1057.709528 | 823.93 | 1.91E-05 | 7.58E-01 | 3.84E-01 | 2.91E-01 |
| 87 | 3,125,149.89 | 828.7761633 | 0.02 | 9.75E+02 | 6.50E-01 | 4.29E+05 | 5.29E-02 | 1056.426174 | 822.56 | 1.91E-05 | 7.59E-01 | 3.85E-01 | 2.92E-01 |
| 88 | 3,161,071.15 | 831.3382009 | 0.02 | 9.72E+02 | 6.48E-01 | 4.29E+05 | 5.29E-02 | 1055.143563 | 821.19 | 1.90E-05 | 7.60E-01 | 3.85E-01 | 2.93E-01 |
| 89 | 3,196,992.41 | 833.8790746 | 0.02 | 9.70E+02 | 6.47E-01 | 4.29E+05 | 5.29E-02 | 1053.861756 | 819.82 | 1.90E-05 | 7.61E-01 | 3.85E-01 | 2.93E-01 |
| 90 | 3,232,913.68 | 836.3991942 | 0.02 | 9.68E+02 | 6.45E-01 | 4.29E+05 | 5.29E-02 | 1052.580811 | 818.46 | 1.89E-05 | 7.62E-01 | 3.86E-01 | 2.94E-01 |
| 91 | 3,268,834.94 | 838.8989569 | 0.02 | 9.65E+02 | 6.44E-01 | 4.29E+05 | 5.30E-02 | 1051.300781 | 817.09 | 1.89E-05 | 7.63E-01 | 3.86E-01 | 2.95E-01 |
| 92 | 3,304,756.20 | 841.3787483 | 0.02 | 9.63E+02 | 6.42E-01 | 4.28E+05 | 5.30E-02 | 1050.021718 | 815.73 | 1.88E-05 | 7.64E-01 | 3.87E-01 | 2.95E-01 |
| 93 | 3,340,677.47 | 843.8389423 | 0.02 | 9.61E+02 | 6.41E-01 | 4.28E+05 | 5.30E-02 | 1048.743668 | 814.37 | 1.88E-05 | 7.65E-01 | 3.87E-01 | 2.96E-01 |
| 94 | 3,376,598.73 | 846.2799021 | 0.02 | 9.59E+02 | 6.39E-01 | 4.28E+05 | 5.30E-02 | 1047.466675 | 813.01 | 1.87E-05 | 7.66E-01 | 3.87E-01 | 2.97E-01 |
| 95 | 3,412,519.99 | 848.7019804 | 0.02 | 9.56E+02 | 6.38E-01 | 4.28E+05 | 5.30E-02 | 1046.190778 | 811.66 | 1.87E-05 | 7.67E-01 | 3.88E-01 | 2.97E-01 |
| 96 | 3,448,441.25 | 851.1055196 | 0.02 | 9.54E+02 | 6.36E-01 | 4.28E+05 | 5.31E-02 | 1044.916015 | 810.30 | 1.87E-05 | 7.68E-01 | 3.88E-01 | 2.98E-01 |
| 97 | 3,484,362.52 | 853.4908525 | 0.02 | 9.52E+02 | 6.35E-01 | 4.27E+05 | 5.31E-02 | 1043.642422 | 808.95 | 1.86E-05 | 7.69E-01 | 3.88E-01 | 2.99E-01 |
| 98 | 3,520,283.78 | 855.8583028 | 0.02 | 9.50E+02 | 6.33E-01 | 4.27E+05 | 5.31E-02 | 1042.370029 | 807.60 | 1.86E-05 | 7.70E-01 | 3.89E-01 | 2.99E-01 |
| 99 | 3,556,205.04 | 858.2081847 | 0.01 | 9.48E+02 | 6.32E-01 | 4.27E+05 | 5.32E-02 | 1041.098868 | 806.25 | 1.85E-05 | 7.71E-01 | 3.89E-01 | 3.00E-01 |
| 100 | 3,592,126.31 | 860.5408044 | 0.01 | 9.46E+02 | 6.30E-01 | 4.26E+05 | 5.32E-02 | 1039.828965 | 804.90 | 1.85E-05 | 7.72E-01 | 3.90E-01 | 3.01E-01 |

Table B.1: Mach = 0.85 and Turbine Inlet Temperature = 1500

| Mach = 0.85 and Turbine Inlet Temperature = 1600 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 248.10 | | | | | | | | | | | | |
| Pt2 | 35,921.26 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=0.85 T=1600 | M=0.85 T=1600 | M=0.85 T=1600 | M=0.85 T=1600 | M=0.85 T=1600 |
| 1 | 35,921.26 | 248.0992679 | 0.03 | 1.60E+03 | 1.00E+00 | 3.59E+04 | 6.32E-01 | 622.6817794 | 392.38 | 8.23E-05 | 1.16E-01 | 5.82E-01 | 6.76E-02 |
| 2 | 71,842.53 | 299.1751756 | 0.03 | 1.55E+03 | 9.72E-01 | 6.31E+04 | 3.60E-01 | 883.6319373 | 763.77 | 4.07E-05 | 2.80E-01 | 2.87E-01 | 8.05E-02 |
| 3 | 107,763.79 | 333.7974756 | 0.03 | 1.52E+03 | 9.52E-01 | 8.65E+04 | 2.62E-01 | 980.9396973 | 863.27 | 3.50E-05 | 3.57E-01 | 2.62E-01 | 9.35E-02 |
| 4 | 143,685.05 | 360.7660209 | 0.03 | 1.50E+03 | 9.37E-01 | 1.07E+05 | 2.11E-01 | 1034.756246 | 918.03 | 3.22E-05 | 4.06E-01 | 2.50E-01 | 1.02E-01 |
| 5 | 179,606.32 | 383.1760919 | 0.03 | 1.48E+03 | 9.25E-01 | 1.26E+05 | 1.80E-01 | 1069.452105 | 953.16 | 3.04E-05 | 4.43E-01 | 2.43E-01 | 1.08E-01 |
| 6 | 215,527.58 | 402.5159736 | 0.03 | 1.46E+03 | 9.14E-01 | 1.44E+05 | 1.58E-01 | 1093.773696 | 977.67 | 2.92E-05 | 4.71E-01 | 2.38E-01 | 1.12E-01 |
| 7 | 251,448.84 | 419.6272081 | 0.03 | 1.45E+03 | 9.04E-01 | 1.60E+05 | 1.42E-01 | 1111.744236 | 995.69 | 2.82E-05 | 4.94E-01 | 2.35E-01 | 1.16E-01 |
| 8 | 287,370.10 | 435.036502 | 0.03 | 1.43E+03 | 8.96E-01 | 1.75E+05 | 1.30E-01 | 1125.506195 | 1,009.42 | 2.75E-05 | 5.13E-01 | 2.32E-01 | 1.19E-01 |
| 9 | 323,291.37 | 449.0974747 | 0.03 | 1.42E+03 | 8.88E-01 | 1.89E+05 | 1.20E-01 | 1136.318048 | 1,020.14 | 2.69E-05 | 5.29E-01 | 2.30E-01 | 1.22E-01 |
| 10 | 359,212.63 | 462.0601082 | 0.03 | 1.41E+03 | 8.80E-01 | 2.02E+05 | 1.12E-01 | 1144.973168 | 1,028.67 | 2.63E-05 | 5.44E-01 | 2.29E-01 | 1.24E-01 |
| 11 | 395,133.89 | 474.1082601 | 0.03 | 1.40E+03 | 8.74E-01 | 2.15E+05 | 1.06E-01 | 1151.999233 | 1,035.54 | 2.59E-05 | 5.56E-01 | 2.28E-01 | 1.27E-01 |
| 12 | 431,055.16 | 485.3814688 | 0.03 | 1.39E+03 | 8.67E-01 | 2.27E+05 | 1.00E-01 | 1157.762272 | 1,041.14 | 2.55E-05 | 5.68E-01 | 2.26E-01 | 1.29E-01 |
| 13 | 466,976.42 | 495.988375 | 0.03 | 1.38E+03 | 8.61E-01 | 2.38E+05 | 9.54E-02 | 1162.524943 | 1,045.73 | 2.51E-05 | 5.78E-01 | 2.26E-01 | 1.30E-01 |
| 14 | 502,897.68 | 506.0153733 | 0.03 | 1.37E+03 | 8.56E-01 | 2.49E+05 | 9.13E-02 | 1166.481069 | 1,049.50 | 2.48E-05 | 5.87E-01 | 2.25E-01 | 1.32E-01 |
| 15 | 538,818.95 | 515.5324046 | 0.03 | 1.36E+03 | 8.50E-01 | 2.59E+05 | 8.77E-02 | 1169.777072 | 1,052.61 | 2.45E-05 | 5.96E-01 | 2.24E-01 | 1.34E-01 |
| 16 | 574,740.21 | 524.5969606 | 0.03 | 1.35E+03 | 8.45E-01 | 2.69E+05 | 8.45E-02 | 1172.525793 | 1,055.17 | 2.42E-05 | 6.04E-01 | 2.24E-01 | 1.35E-01 |
| 17 | 610,661.47 | 533.2569266 | 0.03 | 1.34E+03 | 8.40E-01 | 2.78E+05 | 8.17E-02 | 1174.8157 | 1,057.27 | 2.40E-05 | 6.11E-01 | 2.24E-01 | 1.37E-01 |
| 18 | 646,582.74 | 541.5526494 | 0.03 | 1.34E+03 | 8.36E-01 | 2.87E+05 | 7.91E-02 | 1176.717203 | 1,058.98 | 2.37E-05 | 6.18E-01 | 2.23E-01 | 1.38E-01 |
| 19 | 682,504.00 | 549.5184706 | 0.02 | 1.33E+03 | 8.31E-01 | 2.95E+05 | 7.68E-02 | 1178.287074 | 1,060.36 | 2.35E-05 | 6.24E-01 | 2.23E-01 | 1.39E-01 |
| 20 | 718,425.26 | 557.1838851 | 0.02 | 1.32E+03 | 8.27E-01 | 3.04E+05 | 7.48E-02 | 1179.571632 | 1,061.46 | 2.33E-05 | 6.30E-01 | 2.23E-01 | 1.40E-01 |
| 21 | 754,346.52 | 564.5744299 | 0.02 | 1.32E+03 | 8.23E-01 | 3.11E+05 | 7.29E-02 | 1180.609054 | 1,062.31 | 2.31E-05 | 6.36E-01 | 2.23E-01 | 1.42E-01 |
| 22 | 790,267.79 | 571.712376 | 0.02 | 1.31E+03 | 8.19E-01 | 3.19E+05 | 7.11E-02 | 1181.431107 | 1,062.94 | 2.29E-05 | 6.41E-01 | 2.22E-01 | 1.43E-01 |
| 23 | 826,189.05 | 578.6172737 | 0.02 | 1.30E+03 | 8.15E-01 | 3.26E+05 | 6.96E-02 | 1182.064443 | 1,063.39 | 2.28E-05 | 6.46E-01 | 2.22E-01 | 1.44E-01 |
| 24 | 862,110.31 | 585.3063871 | 0.02 | 1.30E+03 | 8.11E-01 | 3.33E+05 | 6.81E-02 | 1182.531594 | 1,063.68 | 2.26E-05 | 6.51E-01 | 2.22E-01 | 1.45E-01 |
| 25 | 898,031.58 | 591.7950449 | 0.02 | 1.29E+03 | 8.07E-01 | 3.40E+05 | 6.68E-02 | 1182.851743 | 1,063.82 | 2.25E-05 | 6.56E-01 | 2.22E-01 | 1.46E-01 |
| 26 | 933,952.84 | 598.0969248 | 0.02 | 1.29E+03 | 8.04E-01 | 3.46E+05 | 6.55E-02 | 1183.041323 | 1,063.83 | 2.23E-05 | 6.60E-01 | 2.22E-01 | 1.47E-01 |
| 27 | 969,874.10 | 604.2242874 | 0.02 | 1.28E+03 | 8.00E-01 | 3.53E+05 | 6.44E-02 | 1183.114496 | 1,063.73 | 2.22E-05 | 6.64E-01 | 2.22E-01 | 1.48E-01 |
| 28 | 1,005,795.37 | 610.1881695 | 0.02 | 1.27E+03 | 7.97E-01 | 3.59E+05 | 6.33E-02 | 1183.083529 | 1,063.52 | 2.21E-05 | 6.68E-01 | 2.22E-01 | 1.48E-01 |
| 29 | 1,041,716.63 | 615.9985453 | 0.02 | 1.27E+03 | 7.94E-01 | 3.65E+05 | 6.23E-02 | 1182.959103 | 1,063.23 | 2.19E-05 | 6.72E-01 | 2.22E-01 | 1.49E-01 |
| 30 | 1,077,637.89 | 621.6644611 | 0.02 | 1.26E+03 | 7.90E-01 | 3.70E+05 | 6.13E-02 | 1182.75056 | 1,062.85 | 2.18E-05 | 6.76E-01 | 2.22E-01 | 1.50E-01 |
| 31 | 1,113,559.16 | 627.1941495 | 0.02 | 1.26E+03 | 7.87E-01 | 3.75E+05 | 6.04E-02 | 1182.466106 | 1,062.40 | 2.17E-05 | 6.79E-01 | 2.22E-01 | 1.51E-01 |
| 32 | 1,149,480.42 | 632.5951266 | 0.02 | 1.25E+03 | 7.84E-01 | 3.81E+05 | 5.96E-02 | 1182.112974 | 1,061.88 | 2.16E-05 | 6.83E-01 | 2.22E-01 | 1.52E-01 |
| 33 | 1,185,401.68 | 637.8742739 | 0.02 | 1.25E+03 | 7.81E-01 | 3.86E+05 | 5.88E-02 | 1181.69757 | 1,061.31 | 2.15E-05 | 6.86E-01 | 2.22E-01 | 1.53E-01 |
| 34 | 1,221,322.94 | 643.0379097 | 0.02 | 1.25E+03 | 7.78E-01 | 3.91E+05 | 5.81E-02 | 1181.225581 | 1,060.67 | 2.14E-05 | 6.89E-01 | 2.22E-01 | 1.53E-01 |
| 35 | 1,257,244.21 | 648.0918505 | 0.02 | 1.24E+03 | 7.75E-01 | 3.95E+05 | 5.74E-02 | 1180.702075 | 1,059.99 | 2.13E-05 | 6.92E-01 | 2.22E-01 | 1.54E-01 |
| 36 | 1,293,165.47 | 653.0414634 | 0.02 | 1.24E+03 | 7.73E-01 | 4.00E+05 | 5.68E-02 | 1180.131581 | 1,059.27 | 2.12E-05 | 6.95E-01 | 2.23E-01 | 1.55E-01 |
| 37 | 1,329,086.73 | 657.8917124 | 0.02 | 1.23E+03 | 7.70E-01 | 4.04E+05 | 5.62E-02 | 1179.518158 | 1,058.50 | 2.11E-05 | 6.98E-01 | 2.23E-01 | 1.55E-01 |
| 38 | 1,365,008.00 | 662.6471989 | 0.02 | 1.23E+03 | 7.67E-01 | 4.08E+05 | 5.56E-02 | 1178.865454 | 1,057.69 | 2.10E-05 | 7.01E-01 | 2.23E-01 | 1.56E-01 |
| 39 | 1,400,929.26 | 667.3121968 | 0.02 | 1.22E+03 | 7.64E-01 | 4.12E+05 | 5.50E-02 | 1178.176757 | 1,056.86 | 2.09E-05 | 7.04E-01 | 2.23E-01 | 1.57E-01 |
| 40 | 1,436,850.52 | 671.8906834 | 0.02 | 1.22E+03 | 7.62E-01 | 4.16E+05 | 5.45E-02 | 1177.455034 | 1,055.99 | 2.08E-05 | 7.06E-01 | 2.23E-01 | 1.58E-01 |
| 41 | 1,472,771.79 | 676.386367 | 0.02 | 1.21E+03 | 7.59E-01 | 4.20E+05 | 5.40E-02 | 1176.702973 | 1,055.09 | 2.07E-05 | 7.09E-01 | 2.23E-01 | 1.58E-01 |
| 42 | 1,508,693.05 | 680.8027111 | 0.02 | 1.21E+03 | 7.57E-01 | 4.24E+05 | 5.35E-02 | 1175.92301 | 1,054.16 | 2.06E-05 | 7.11E-01 | 2.23E-01 | 1.59E-01 |
| 43 | 1,544,614.31 | 685.1429559 | 0.02 | 1.21E+03 | 7.54E-01 | 4.27E+05 | 5.31E-02 | 1175.117362 | 1,053.22 | 2.05E-05 | 7.14E-01 | 2.23E-01 | 1.59E-01 |
| 44 | 1,580,535.57 | 689.4101378 | 0.02 | 1.20E+03 | 7.52E-01 | 4.31E+05 | 5.27E-02 | 1174.288045 | 1,052.25 | 2.04E-05 | 7.16E-01 | 2.24E-01 | 1.60E-01 |
| 45 | 1,616,456.84 | 693.6071061 | 0.02 | 1.20E+03 | 7.50E-01 | 4.34E+05 | 5.23E-02 | 1173.4369 | 1,051.26 | 2.04E-05 | 7.19E-01 | 2.24E-01 | 1.61E-01 |
| 46 | 1,652,378.10 | 697.7365387 | 0.02 | 1.20E+03 | 7.47E-01 | 4.37E+05 | 5.19E-02 | 1172.56561 | 1,050.25 | 2.03E-05 | 7.21E-01 | 2.24E-01 | 1.61E-01 |
| 47 | 1,688,299.36 | 701.8009558 | 0.02 | 1.19E+03 | 7.45E-01 | 4.41E+05 | 5.15E-02 | 1171.675715 | 1,049.22 | 2.02E-05 | 7.23E-01 | 2.24E-01 | 1.62E-01 |
| 48 | 1,724,220.63 | 705.8027322 | 0.02 | 1.19E+03 | 7.43E-01 | 4.44E+05 | 5.12E-02 | 1170.768627 | 1,048.18 | 2.01E-05 | 7.25E-01 | 2.24E-01 | 1.63E-01 |
| 49 | 1,760,141.89 | 709.7441087 | 0.02 | 1.18E+03 | 7.40E-01 | 4.47E+05 | 5.08E-02 | 1169.845642 | 1,047.13 | 2.01E-05 | 7.27E-01 | 2.24E-01 | 1.63E-01 |
| 50 | 1,796,063.15 | 713.6272024 | 0.02 | 1.18E+03 | 7.38E-01 | 4.49E+05 | 5.05E-02 | 1168.907952 | 1,046.06 | 2.00E-05 | 7.29E-01 | 2.24E-01 | 1.64E-01 |
| 51 | 1,831,984.42 | 717.4540152 | 0.02 | 1.18E+03 | 7.36E-01 | 4.52E+05 | 5.02E-02 | 1167.956657 | 1,044.98 | 1.99E-05 | 7.31E-01 | 2.25E-01 | 1.64E-01 |
| 52 | 1,867,905.68 | 721.2264429 | 0.02 | 1.17E+03 | 7.34E-01 | 4.55E+05 | 4.99E-02 | 1166.992767 | 1,043.89 | 1.99E-05 | 7.33E-01 | 2.25E-01 | 1.65E-01 |
| 53 | 1,903,826.94 | 724.9462824 | 0.02 | 1.17E+03 | 7.32E-01 | 4.57E+05 | 4.96E-02 | 1166.017217 | 1,042.78 | 1.98E-05 | 7.35E-01 | 2.25E-01 | 1.65E-01 |
| 54 | 1,939,748.21 | 728.6152385 | 0.02 | 1.17E+03 | 7.30E-01 | 4.60E+05 | 4.94E-02 | 1165.030872 | 1,041.67 | 1.97E-05 | 7.37E-01 | 2.25E-01 | 1.66E-01 |
| 55 | 1,975,669.47 | 732.2349306 | 0.02 | 1.16E+03 | 7.28E-01 | 4.62E+05 | 4.91E-02 | 1164.034531 | 1,040.55 | 1.97E-05 | 7.39E-01 | 2.25E-01 | 1.66E-01 |
| 56 | 2,011,590.73 | 735.8068982 | 0.02 | 1.16E+03 | 7.26E-01 | 4.64E+05 | 4.89E-02 | 1163.028933 | 1,039.43 | 1.96E-05 | 7.41E-01 | 2.25E-01 | 1.67E-01 |
| 57 | 2,047,511.99 | 739.332606 | 0.02 | 1.16E+03 | 7.24E-01 | 4.67E+05 | 4.86E-02 | 1162.014765 | 1,038.29 | 1.95E-05 | 7.42E-01 | 2.26E-01 | 1.67E-01 |
| 58 | 2,083,433.26 | 742.8134492 | 0.02 | 1.15E+03 | 7.22E-01 | 4.69E+05 | 4.84E-02 | 1160.992665 | 1,037.15 | 1.95E-05 | 7.44E-01 | 2.26E-01 | 1.68E-01 |
| 59 | 2,119,354.52 | 746.2507578 | 0.02 | 1.15E+03 | 7.20E-01 | 4.71E+05 | 4.82E-02 | 1159.963224 | 1,036.00 | 1.94E-05 | 7.46E-01 | 2.26E-01 | 1.69E-01 |
| 60 | 2,155,275.78 | 749.6458005 | 0.02 | 1.15E+03 | 7.18E-01 | 4.73E+05 | 4.80E-02 | 1158.926993 | 1,034.85 | 1.94E-05 | 7.47E-01 | 2.26E-01 | 1.69E-01 |
| 61 | 2,191,197.05 | 752.9997885 | 0.02 | 1.15E+03 | 7.16E-01 | 4.75E+05 | 4.78E-02 | 1157.884484 | 1,033.69 | 1.93E-05 | 7.49E-01 | 2.26E-01 | 1.70E-01 |
| 62 | 2,227,118.31 | 756.3138795 | 0.02 | 1.14E+03 | 7.14E-01 | 4.76E+05 | 4.76E-02 | 1156.836173 | 1,032.53 | 1.93E-05 | 7.51E-01 | 2.26E-01 | 1.70E-01 |
| 63 | 2,263,039.57 | 759.5891801 | 0.02 | 1.14E+03 | 7.12E-01 | 4.78E+05 | 4.75E-02 | 1155.782507 | 1,031.36 | 1.92E-05 | 7.52E-01 | 2.27E-01 | 1.71E-01 |
| 64 | 2,298,960.84 | 762.8267494 | 0.02 | 1.14E+03 | 7.10E-01 | 4.80E+05 | 4.73E-02 | 1154.723899 | 1,030.19 | 1.91E-05 | 7.54E-01 | 2.27E-01 | 1.71E-01 |
| 65 | 2,334,882.10 | 766.0276016 | 0.02 | 1.13E+03 | 7.08E-01 | 4.82E+05 | 4.71E-02 | 1153.660737 | 1,029.01 | 1.91E-05 | 7.55E-01 | 2.27E-01 | 1.71E-01 |
| 66 | 2,370,803.36 | 769.1927086 | 0.02 | 1.13E+03 | 7.07E-01 | 4.83E+05 | 4.70E-02 | 1152.593383 | 1,027.84 | 1.90E-05 | 7.57E-01 | 2.27E-01 | 1.72E-01 |
| 67 | 2,406,724.63 | 772.3230021 | 0.02 | 1.13E+03 | 7.05E-01 | 4.85E+05 | 4.68E-02 | 1151.522176 | 1,026.66 | 1.90E-05 | 7.58E-01 | 2.27E-01 | 1.72E-01 |
| 68 | 2,442,645.89 | 775.4193762 | 0.02 | 1.12E+03 | 7.03E-01 | 4.86E+05 | 4.67E-02 | 1150.447431 | 1,025.47 | 1.89E-05 | 7.60E-01 | 2.28E-01 | 1.73E-01 |
| 69 | 2,478,567.15 | 778.4826892 | 0.02 | 1.12E+03 | 7.01E-01 | 4.88E+05 | 4.65E-02 | 1149.369444 | 1,024.29 | 1.89E-05 | 7.61E-01 | 2.28E-01 | 1.73E-01 |
| 70 | 2,514,488.41 | 781.5137659 | 0.02 | 1.12E+03 | 7.00E-01 | 4.89E+05 | 4.64E-02 | 1148.288493 | 1,023.10 | 1.88E-05 | 7.63E-01 | 2.28E-01 | 1.74E-01 |
| 71 | 2,550,409.68 | 784.5133986 | 0.02 | 1.12E+03 | 6.98E-01 | 4.90E+05 | 4.63E-02 | 1147.204838 | 1,021.91 | 1.88E-05 | 7.64E-01 | 2.28E-01 | 1.74E-01 |
| 72 | 2,586,330.94 | 787.4823497 | 0.02 | 1.11E+03 | 6.96E-01 | 4.92E+05 | 4.62E-02 | 1146.118722 | 1,020.72 | 1.87E-05 | 7.65E-01 | 2.28E-01 | 1.75E-01 |
| 73 | 2,622,252.20 | 790.4213528 | 0.02 | 1.11E+03 | 6.94E-01 | 4.93E+05 | 4.61E-02 | 1145.030373 | 1,019.53 | 1.87E-05 | 7.67E-01 | 2.29E-01 | 1.75E-01 |
| 74 | 2,658,173.47 | 793.3311139 | 0.02 | 1.11E+03 | 6.93E-01 | 4.94E+05 | 4.60E-02 | 1143.940007 | 1,018.34 | 1.86E-05 | 7.68E-01 | 2.29E-01 | 1.76E-01 |
| 75 | 2,694,094.73 | 796.2123134 | 0.02 | 1.11E+03 | 6.91E-01 | 4.95E+05 | 4.59E-02 | 1142.847823 | 1,017.15 | 1.86E-05 | 7.69E-01 | 2.29E-01 | 1.76E-01 |
| 76 | 2,730,015.99 | 799.0656069 | 0.02 | 1.10E+03 | 6.89E-01 | 4.96E+05 | 4.58E-02 | 1141.754011 | 1,015.95 | 1.85E-05 | 7.71E-01 | 2.29E-01 | 1.77E-01 |
| 77 | 2,765,937.26 | 801.8916266 | 0.02 | 1.10E+03 | 6.88E-01 | 4.97E+05 | 4.57E-02 | 1140.658749 | 1,014.76 | 1.85E-05 | 7.72E-01 | 2.29E-01 | 1.77E-01 |
| 78 | 2,801,858.52 | 804.6909825 | 0.02 | 1.10E+03 | 6.86E-01 | 4.98E+05 | 4.56E-02 | 1139.562202 | 1,013.56 | 1.84E-05 | 7.73E-01 | 2.29E-01 | 1.77E-01 |
| 79 | 2,837,779.78 | 807.4642631 | 0.02 | 1.10E+03 | 6.85E-01 | 4.99E+05 | 4.55E-02 | 1138.464529 | 1,012.37 | 1.84E-05 | 7.75E-01 | 2.30E-01 | 1.78E-01 |
| 80 | 2,873,701.05 | 810.2120368 | 0.02 | 1.09E+03 | 6.83E-01 | 5.00E+05 | 4.54E-02 | 1137.365876 | 1,011.17 | 1.84E-05 | 7.76E-01 | 2.30E-01 | 1.78E-01 |
| 81 | 2,909,622.31 | 812.9348527 | 0.02 | 1.09E+03 | 6.82E-01 | 5.01E+05 | 4.53E-02 | 1136.266382 | 1,009.98 | 1.83E-05 | 7.77E-01 | 2.30E-01 | 1.79E-01 |
| 82 | 2,945,543.57 | 815.6332415 | 0.02 | 1.09E+03 | 6.80E-01 | 5.01E+05 | 4.53E-02 | 1135.166177 | 1,008.78 | 1.83E-05 | 7.78E-01 | 2.30E-01 | 1.79E-01 |
| 83 | 2,981,464.83 | 818.3077162 | 0.02 | 1.09E+03 | 6.78E-01 | 5.02E+05 | 4.52E-02 | 1134.065384 | 1,007.58 | 1.82E-05 | 7.79E-01 | 2.30E-01 | 1.80E-01 |
| 84 | 3,017,386.10 | 820.9587732 | 0.02 | 1.08E+03 | 6.77E-01 | 5.03E+05 | 4.51E-02 | 1132.964119 | 1,006.39 | 1.82E-05 | 7.81E-01 | 2.31E-01 | 1.80E-01 |
| 85 | 3,053,307.36 | 823.5868926 | 0.02 | 1.08E+03 | 6.75E-01 | 5.04E+05 | 4.51E-02 | 1131.862491 | 1,005.19 | 1.81E-05 | 7.82E-01 | 2.31E-01 | 1.80E-01 |
| 86 | 3,089,228.62 | 826.1925392 | 0.02 | 1.08E+03 | 6.74E-01 | 5.04E+05 | 4.50E-02 | 1130.760601 | 1,004.00 | 1.81E-05 | 7.83E-01 | 2.31E-01 | 1.81E-01 |
| 87 | 3,125,149.89 | 828.7761633 | 0.02 | 1.08E+03 | 6.73E-01 | 5.05E+05 | 4.50E-02 | 1129.658546 | 1,002.81 | 1.81E-05 | 7.84E-01 | 2.31E-01 | 1.81E-01 |
| 88 | 3,161,071.15 | 831.3382009 | 0.02 | 1.07E+03 | 6.71E-01 | 5.05E+05 | 4.49E-02 | 1128.556418 | 1,001.61 | 1.80E-05 | 7.85E-01 | 2.31E-01 | 1.82E-01 |
| 89 | 3,196,992.41 | 833.8790746 | 0.02 | 1.07E+03 | 6.70E-01 | 5.06E+05 | 4.49E-02 | 1127.454301 | 1,000.42 | 1.80E-05 | 7.86E-01 | 2.32E-01 | 1.82E-01 |
| 90 | 3,232,913.68 | 836.3991942 | 0.02 | 1.07E+03 | 6.68E-01 | 5.06E+05 | 4.48E-02 | 1126.352277 | 999.23 | 1.79E-05 | 7.87E-01 | 2.32E-01 | 1.83E-01 |
| 91 | 3,268,834.94 | 838.8989569 | 0.02 | 1.07E+03 | 6.67E-01 | 5.07E+05 | 4.48E-02 | 1125.250421 | 998.04 | 1.79E-05 | 7.88E-01 | 2.32E-01 | 1.83E-01 |
| 92 | 3,304,756.20 | 841.3787483 | 0.02 | 1.06E+03 | 6.65E-01 | 5.07E+05 | 4.48E-02 | 1124.148804 | 996.85 | 1.79E-05 | 7.89E-01 | 2.32E-01 | 1.83E-01 |
| 93 | 3,340,677.47 | 843.8389423 | 0.02 | 1.06E+03 | 6.64E-01 | 5.08E+05 | 4.47E-02 | 1123.047495 | 995.66 | 1.78E-05 | 7.90E-01 | 2.32E-01 | 1.84E-01 |
| 94 | 3,376,598.73 | 846.2799021 | 0.02 | 1.06E+03 | 6.62E-01 | 5.08E+05 | 4.47E-02 | 1121.946555 | 994.48 | 1.78E-05 | 7.91E-01 | 2.33E-01 | 1.84E-01 |
| 95 | 3,412,519.99 | 848.7019804 | 0.02 | 1.06E+03 | 6.61E-01 | 5.08E+05 | 4.47E-02 | 1120.846046 | 993.29 | 1.77E-05 | 7.92E-01 | 2.33E-01 | 1.85E-01 |
| 96 | 3,448,441.25 | 851.1055196 | 0.02 | 1.06E+03 | 6.60E-01 | 5.09E+05 | 4.46E-02 | 1119.746023 | 992.10 | 1.77E-05 | 7.93E-01 | 2.33E-01 | 1.85E-01 |
| 97 | 3,484,362.52 | 853.4908525 | 0.02 | 1.05E+03 | 6.58E-01 | 5.09E+05 | 4.46E-02 | 1118.646539 | 990.92 | 1.77E-05 | 7.95E-01 | 2.33E-01 | 1.85E-01 |
| 98 | 3,520,283.78 | 855.8583028 | 0.02 | 1.05E+03 | 6.57E-01 | 5.09E+05 | 4.46E-02 | 1117.547645 | 989.74 | 1.76E-05 | 7.96E-01 | 2.33E-01 | 1.86E-01 |
| 99 | 3,556,205.04 | 858.2081847 | 0.02 | 1.05E+03 | 6.56E-01 | 5.09E+05 | 4.46E-02 | 1116.449386 | 988.56 | 1.76E-05 | 7.96E-01 | 2.34E-01 | 1.86E-01 |
| 100 | 3,592,126.31 | 860.5408044 | 0.02 | 1.05E+03 | 6.54E-01 | 5.09E+05 | 4.46E-02 | 1115.351807 | 987.38 | 1.76E-05 | 7.97E-01 | 2.34E-01 | 1.86E-01 |

Table B.2: Mach = 0.85 and Turbine Inlet Temperature = 1600

| Mach = 0.85 and Turbine Inlet Temperature = 1700 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 248.10 | | | | | | | | | | | | |
| Pt2 | 35,921.26 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=0.85 T=1700 | M=0.85 T=1700 | M=0.85 T=1700 | M=0.85 T=1700 | M=0.85 T=1700 |
| 1 | 35,921.26 | 248.0992679 | 0.03 | 1.70E+03 | 1.00E+00 | 3.59E+04 | 6.32E-01 | 641.8456869 | 413.75 | 8.41E-05 | 1.16E-01 | 5.70E-01 | 6.62E-02 |
| 2 | 71,842.53 | 299.1751756 | 0.03 | 1.65E+03 | 9.73E-01 | 6.36E+04 | 3.57E-01 | 914.7469571 | 695.01 | 4.83E-05 | 2.66E-01 | 4.34E-01 | 1.15E-01 |
| 3 | 107,763.79 | 333.7974756 | 0.03 | 1.62E+03 | 9.55E-01 | 8.77E+04 | 2.59E-01 | 1017.004172 | 799.83 | 4.09E-05 | 3.42E-01 | 3.98E-01 | 1.36E-01 |
| 4 | 143,685.05 | 360.7660209 | 0.03 | 1.60E+03 | 9.41E-01 | 1.09E+05 | 2.08E-01 | 1073.88563 | 857.86 | 3.73E-05 | 3.91E-01 | 3.81E-01 | 1.49E-01 |
| 5 | 179,606.32 | 383.1760919 | 0.03 | 1.58E+03 | 9.29E-01 | 1.29E+05 | 1.76E-01 | 1110.783775 | 895.33 | 3.52E-05 | 4.27E-01 | 3.71E-01 | 1.58E-01 |
| 6 | 215,527.58 | 402.5159736 | 0.03 | 1.56E+03 | 9.19E-01 | 1.47E+05 | 1.54E-01 | 1136.81942 | 921.65 | 3.36E-05 | 4.55E-01 | 3.64E-01 | 1.65E-01 |
| 7 | 251,448.84 | 419.6272081 | 0.03 | 1.55E+03 | 9.10E-01 | 1.64E+05 | 1.38E-01 | 1156.192447 | 941.13 | 3.25E-05 | 4.78E-01 | 3.58E-01 | 1.71E-01 |
| 8 | 287,370.10 | 435.036502 | 0.03 | 1.53E+03 | 9.02E-01 | 1.81E+05 | 1.26E-01 | 1171.141931 | 956.10 | 3.16E-05 | 4.97E-01 | 3.55E-01 | 1.76E-01 |
| 9 | 323,291.37 | 449.0974747 | 0.03 | 1.52E+03 | 8.95E-01 | 1.96E+05 | 1.16E-01 | 1182.984612 | 967.89 | 3.09E-05 | 5.13E-01 | 3.52E-01 | 1.80E-01 |
| 10 | 359,212.63 | 462.0601082 | 0.03 | 1.51E+03 | 8.88E-01 | 2.10E+05 | 1.08E-01 | 1192.551569 | 977.37 | 3.02E-05 | 5.27E-01 | 3.49E-01 | 1.84E-01 |
| 11 | 395,133.89 | 474.1082601 | 0.03 | 1.50E+03 | 8.81E-01 | 2.23E+05 | 1.02E-01 | 1200.396205 | 985.09 | 2.97E-05 | 5.40E-01 | 3.47E-01 | 1.87E-01 |
| 12 | 431,055.16 | 485.3814688 | 0.03 | 1.49E+03 | 8.75E-01 | 2.36E+05 | 9.60E-02 | 1206.902848 | 991.45 | 2.92E-05 | 5.51E-01 | 3.46E-01 | 1.90E-01 |
| 13 | 466,976.42 | 495.988375 | 0.03 | 1.48E+03 | 8.70E-01 | 2.49E+05 | 9.13E-02 | 1212.347614 | 996.74 | 2.88E-05 | 5.61E-01 | 3.44E-01 | 1.93E-01 |
| 14 | 502,897.68 | 506.0153733 | 0.03 | 1.47E+03 | 8.64E-01 | 2.61E+05 | 8.71E-02 | 1216.9345 | 1,001.16 | 2.84E-05 | 5.70E-01 | 3.43E-01 | 1.96E-01 |
| 15 | 538,818.95 | 515.5324046 | 0.03 | 1.46E+03 | 8.59E-01 | 2.72E+05 | 8.35E-02 | 1220.817795 | 1,004.87 | 2.81E-05 | 5.78E-01 | 3.42E-01 | 1.98E-01 |
| 16 | 574,740.21 | 524.5969606 | 0.03 | 1.45E+03 | 8.55E-01 | 2.83E+05 | 8.03E-02 | 1224.116549 | 1,007.99 | 2.78E-05 | 5.86E-01 | 3.42E-01 | 2.00E-01 |
| 17 | 610,661.47 | 533.2569266 | 0.03 | 1.45E+03 | 8.50E-01 | 2.93E+05 | 7.75E-02 | 1226.924209 | 1,010.61 | 2.75E-05 | 5.93E-01 | 3.41E-01 | 2.02E-01 |
| 18 | 646,582.74 | 541.5526494 | 0.03 | 1.44E+03 | 8.46E-01 | 3.03E+05 | 7.49E-02 | 1229.315235 | 1,012.82 | 2.72E-05 | 6.00E-01 | 3.40E-01 | 2.04E-01 |
| 19 | 682,504.00 | 549.5184706 | 0.03 | 1.43E+03 | 8.41E-01 | 3.13E+05 | 7.26E-02 | 1231.349744 | 1,014.67 | 2.70E-05 | 6.06E-01 | 3.40E-01 | 2.06E-01 |
| 20 | 718,425.26 | 557.1838851 | 0.03 | 1.42E+03 | 8.37E-01 | 3.22E+05 | 7.05E-02 | 1233.076838 | 1,016.21 | 2.68E-05 | 6.12E-01 | 3.40E-01 | 2.08E-01 |
| 21 | 754,346.52 | 564.5744299 | 0.03 | 1.42E+03 | 8.33E-01 | 3.31E+05 | 6.86E-02 | 1234.537043 | 1,017.49 | 2.66E-05 | 6.18E-01 | 3.39E-01 | 2.09E-01 |
| 22 | 790,267.79 | 571.712376 | 0.03 | 1.41E+03 | 8.30E-01 | 3.39E+05 | 6.69E-02 | 1235.764119 | 1,018.53 | 2.64E-05 | 6.23E-01 | 3.39E-01 | 2.11E-01 |
| 23 | 826,189.05 | 578.6172737 | 0.03 | 1.40E+03 | 8.26E-01 | 3.48E+05 | 6.53E-02 | 1236.786427 | 1,019.37 | 2.62E-05 | 6.28E-01 | 3.39E-01 | 2.13E-01 |
| 24 | 862,110.31 | 585.3063871 | 0.03 | 1.40E+03 | 8.22E-01 | 3.56E+05 | 6.38E-02 | 1237.627977 | 1,020.03 | 2.60E-05 | 6.32E-01 | 3.38E-01 | 2.14E-01 |
| 25 | 898,031.58 | 591.7950449 | 0.03 | 1.39E+03 | 8.19E-01 | 3.63E+05 | 6.25E-02 | 1238.309233 | 1,020.54 | 2.58E-05 | 6.37E-01 | 3.38E-01 | 2.15E-01 |
| 26 | 933,952.84 | 598.0969248 | 0.03 | 1.39E+03 | 8.16E-01 | 3.71E+05 | 6.12E-02 | 1238.84775 | 1,020.90 | 2.57E-05 | 6.41E-01 | 3.38E-01 | 2.17E-01 |
| 27 | 969,874.10 | 604.2242874 | 0.03 | 1.38E+03 | 8.12E-01 | 3.78E+05 | 6.00E-02 | 1239.258676 | 1,021.13 | 2.55E-05 | 6.45E-01 | 3.38E-01 | 2.18E-01 |
| 28 | 1,005,795.37 | 610.1881695 | 0.03 | 1.38E+03 | 8.09E-01 | 3.85E+05 | 5.89E-02 | 1239.555149 | 1,021.26 | 2.54E-05 | 6.49E-01 | 3.38E-01 | 2.19E-01 |
| 29 | 1,041,716.63 | 615.9985453 | 0.03 | 1.37E+03 | 8.06E-01 | 3.92E+05 | 5.79E-02 | 1239.748627 | 1,021.28 | 2.52E-05 | 6.53E-01 | 3.38E-01 | 2.21E-01 |
| 30 | 1,077,637.89 | 621.6644611 | 0.03 | 1.37E+03 | 8.03E-01 | 3.99E+05 | 5.69E-02 | 1239.849141 | 1,021.21 | 2.51E-05 | 6.56E-01 | 3.38E-01 | 2.22E-01 |
| 31 | 1,113,559.16 | 627.1941495 | 0.03 | 1.36E+03 | 8.00E-01 | 4.05E+05 | 5.61E-02 | 1239.865516 | 1,021.06 | 2.50E-05 | 6.60E-01 | 3.38E-01 | 2.23E-01 |
| 32 | 1,149,480.42 | 632.5951266 | 0.03 | 1.36E+03 | 7.97E-01 | 4.11E+05 | 5.52E-02 | 1239.805544 | 1,020.83 | 2.48E-05 | 6.63E-01 | 3.38E-01 | 2.24E-01 |
| 33 | 1,185,401.68 | 637.8742739 | 0.03 | 1.35E+03 | 7.95E-01 | 4.17E+05 | 5.44E-02 | 1239.676132 | 1,020.54 | 2.47E-05 | 6.66E-01 | 3.38E-01 | 2.25E-01 |
| 34 | 1,221,322.94 | 643.0379097 | 0.03 | 1.35E+03 | 7.92E-01 | 4.23E+05 | 5.37E-02 | 1239.483422 | 1,020.18 | 2.46E-05 | 6.69E-01 | 3.38E-01 | 2.26E-01 |
| 35 | 1,257,244.21 | 648.0918505 | 0.02 | 1.34E+03 | 7.89E-01 | 4.29E+05 | 5.30E-02 | 1239.232895 | 1,019.77 | 2.45E-05 | 6.72E-01 | 3.38E-01 | 2.27E-01 |
| 36 | 1,293,165.47 | 653.0414634 | 0.02 | 1.34E+03 | 7.86E-01 | 4.34E+05 | 5.23E-02 | 1238.929458 | 1,019.31 | 2.44E-05 | 6.75E-01 | 3.38E-01 | 2.28E-01 |
| 37 | 1,329,086.73 | 657.8917124 | 0.02 | 1.33E+03 | 7.84E-01 | 4.39E+05 | 5.16E-02 | 1238.577515 | 1,018.81 | 2.43E-05 | 6.78E-01 | 3.38E-01 | 2.29E-01 |
| 38 | 1,365,008.00 | 662.6471989 | 0.02 | 1.33E+03 | 7.81E-01 | 4.45E+05 | 5.10E-02 | 1238.181028 | 1,018.25 | 2.42E-05 | 6.80E-01 | 3.38E-01 | 2.30E-01 |
| 39 | 1,400,929.26 | 667.3121968 | 0.02 | 1.32E+03 | 7.79E-01 | 4.50E+05 | 5.05E-02 | 1237.743574 | 1,017.66 | 2.41E-05 | 6.83E-01 | 3.38E-01 | 2.31E-01 |
| 40 | 1,436,850.52 | 671.8906834 | 0.02 | 1.32E+03 | 7.76E-01 | 4.55E+05 | 4.99E-02 | 1237.268389 | 1,017.04 | 2.40E-05 | 6.85E-01 | 3.38E-01 | 2.32E-01 |
| 41 | 1,472,771.79 | 676.386367 | 0.02 | 1.32E+03 | 7.74E-01 | 4.59E+05 | 4.94E-02 | 1236.758405 | 1,016.38 | 2.39E-05 | 6.88E-01 | 3.38E-01 | 2.33E-01 |
| 42 | 1,508,693.05 | 680.8027111 | 0.02 | 1.31E+03 | 7.72E-01 | 4.64E+05 | 4.89E-02 | 1236.216288 | 1,015.69 | 2.38E-05 | 6.90E-01 | 3.39E-01 | 2.34E-01 |
| 43 | 1,544,614.31 | 685.1429559 | 0.02 | 1.31E+03 | 7.69E-01 | 4.68E+05 | 4.85E-02 | 1235.644463 | 1,014.97 | 2.37E-05 | 6.93E-01 | 3.39E-01 | 2.35E-01 |
| 44 | 1,580,535.57 | 689.4101378 | 0.02 | 1.30E+03 | 7.67E-01 | 4.73E+05 | 4.80E-02 | 1235.045143 | 1,014.23 | 2.36E-05 | 6.95E-01 | 3.39E-01 | 2.35E-01 |
| 45 | 1,616,456.84 | 693.6071061 | 0.02 | 1.30E+03 | 7.65E-01 | 4.77E+05 | 4.76E-02 | 1234.420352 | 1,013.46 | 2.36E-05 | 6.97E-01 | 3.39E-01 | 2.36E-01 |
| 46 | 1,652,378.10 | 697.7365387 | 0.02 | 1.30E+03 | 7.63E-01 | 4.81E+05 | 4.72E-02 | 1233.771941 | 1,012.68 | 2.35E-05 | 6.99E-01 | 3.39E-01 | 2.37E-01 |
| 47 | 1,688,299.36 | 701.8009558 | 0.02 | 1.29E+03 | 7.60E-01 | 4.85E+05 | 4.68E-02 | 1233.101609 | 1,011.87 | 2.34E-05 | 7.01E-01 | 3.39E-01 | 2.38E-01 |
| 48 | 1,724,220.63 | 705.8027322 | 0.02 | 1.29E+03 | 7.58E-01 | 4.89E+05 | 4.64E-02 | 1232.410914 | 1,011.04 | 2.33E-05 | 7.03E-01 | 3.39E-01 | 2.39E-01 |
| 49 | 1,760,141.89 | 709.7441087 | 0.02 | 1.29E+03 | 7.56E-01 | 4.93E+05 | 4.61E-02 | 1231.701293 | 1,010.19 | 2.32E-05 | 7.05E-01 | 3.40E-01 | 2.39E-01 |
| 50 | 1,796,063.15 | 713.6272024 | 0.02 | 1.28E+03 | 7.54E-01 | 4.96E+05 | 4.57E-02 | 1230.974067 | 1,009.33 | 2.32E-05 | 7.07E-01 | 3.40E-01 | 2.40E-01 |
| 51 | 1,831,984.42 | 717.4540152 | 0.02 | 1.28E+03 | 7.52E-01 | 5.00E+05 | 4.54E-02 | 1230.230456 | 1,008.46 | 2.31E-05 | 7.09E-01 | 3.40E-01 | 2.41E-01 |
| 52 | 1,867,905.68 | 721.2264429 | 0.02 | 1.28E+03 | 7.50E-01 | 5.04E+05 | 4.51E-02 | 1229.471587 | 1,007.57 | 2.30E-05 | 7.11E-01 | 3.40E-01 | 2.42E-01 |
| 53 | 1,903,826.94 | 724.9462824 | 0.02 | 1.27E+03 | 7.48E-01 | 5.07E+05 | 4.48E-02 | 1228.698502 | 1,006.66 | 2.29E-05 | 7.13E-01 | 3.40E-01 | 2.42E-01 |
| 54 | 1,939,748.21 | 728.6152385 | 0.02 | 1.27E+03 | 7.46E-01 | 5.10E+05 | 4.45E-02 | 1227.912166 | 1,005.75 | 2.29E-05 | 7.15E-01 | 3.40E-01 | 2.43E-01 |
| 55 | 1,975,669.47 | 732.2349306 | 0.02 | 1.27E+03 | 7.44E-01 | 5.13E+05 | 4.42E-02 | 1227.113474 | 1,004.82 | 2.28E-05 | 7.16E-01 | 3.41E-01 | 2.44E-01 |
| 56 | 2,011,590.73 | 735.8068982 | 0.02 | 1.26E+03 | 7.42E-01 | 5.17E+05 | 4.39E-02 | 1226.303257 | 1,003.89 | 2.27E-05 | 7.18E-01 | 3.41E-01 | 2.45E-01 |
| 57 | 2,047,511.99 | 739.332606 | 0.02 | 1.26E+03 | 7.40E-01 | 5.20E+05 | 4.37E-02 | 1225.482287 | 1,002.94 | 2.27E-05 | 7.20E-01 | 3.41E-01 | 2.45E-01 |
| 58 | 2,083,433.26 | 742.8134492 | 0.02 | 1.26E+03 | 7.39E-01 | 5.23E+05 | 4.34E-02 | 1224.651282 | 1,001.99 | 2.26E-05 | 7.21E-01 | 3.41E-01 | 2.46E-01 |
| 59 | 2,119,354.52 | 746.2507578 | 0.02 | 1.25E+03 | 7.37E-01 | 5.25E+05 | 4.32E-02 | 1223.81091 | 1,001.02 | 2.26E-05 | 7.23E-01 | 3.41E-01 | 2.47E-01 |
| 60 | 2,155,275.78 | 749.6458005 | 0.02 | 1.25E+03 | 7.35E-01 | 5.28E+05 | 4.30E-02 | 1222.961795 | 1,000.05 | 2.25E-05 | 7.24E-01 | 3.42E-01 | 2.47E-01 |
| 61 | 2,191,197.05 | 752.9997885 | 0.02 | 1.25E+03 | 7.33E-01 | 5.31E+05 | 4.27E-02 | 1222.104517 | 999.08 | 2.24E-05 | 7.26E-01 | 3.42E-01 | 2.48E-01 |
| 62 | 2,227,118.31 | 756.3138795 | 0.02 | 1.24E+03 | 7.31E-01 | 5.34E+05 | 4.25E-02 | 1221.239621 | 998.09 | 2.24E-05 | 7.27E-01 | 3.42E-01 | 2.49E-01 |
| 63 | 2,263,039.57 | 759.5891801 | 0.02 | 1.24E+03 | 7.30E-01 | 5.36E+05 | 4.23E-02 | 1220.367612 | 997.10 | 2.23E-05 | 7.29E-01 | 3.42E-01 | 2.49E-01 |
| 64 | 2,298,960.84 | 762.8267494 | 0.02 | 1.24E+03 | 7.28E-01 | 5.39E+05 | 4.21E-02 | 1219.488965 | 996.11 | 2.23E-05 | 7.30E-01 | 3.42E-01 | 2.50E-01 |
| 65 | 2,334,882.10 | 766.0276016 | 0.02 | 1.23E+03 | 7.26E-01 | 5.41E+05 | 4.19E-02 | 1218.604124 | 995.11 | 2.22E-05 | 7.32E-01 | 3.43E-01 | 2.51E-01 |
| 66 | 2,370,803.36 | 769.1927086 | 0.02 | 1.23E+03 | 7.24E-01 | 5.43E+05 | 4.18E-02 | 1217.713505 | 994.10 | 2.21E-05 | 7.33E-01 | 3.43E-01 | 2.51E-01 |
| 67 | 2,406,724.63 | 772.3230021 | 0.02 | 1.23E+03 | 7.23E-01 | 5.46E+05 | 4.16E-02 | 1216.817497 | 993.09 | 2.21E-05 | 7.35E-01 | 3.43E-01 | 2.52E-01 |
| 68 | 2,442,645.89 | 775.4193762 | 0.02 | 1.23E+03 | 7.21E-01 | 5.48E+05 | 4.14E-02 | 1215.916466 | 992.08 | 2.20E-05 | 7.36E-01 | 3.43E-01 | 2.53E-01 |
| 69 | 2,478,567.15 | 778.4826892 | 0.02 | 1.22E+03 | 7.19E-01 | 5.50E+05 | 4.13E-02 | 1215.010755 | 991.06 | 2.20E-05 | 7.37E-01 | 3.43E-01 | 2.53E-01 |
| 70 | 2,514,488.41 | 781.5137659 | 0.02 | 1.22E+03 | 7.18E-01 | 5.52E+05 | 4.11E-02 | 1214.100686 | 990.04 | 2.19E-05 | 7.39E-01 | 3.44E-01 | 2.54E-01 |
| 71 | 2,550,409.68 | 784.5133986 | 0.02 | 1.22E+03 | 7.16E-01 | 5.54E+05 | 4.10E-02 | 1213.186562 | 989.02 | 2.19E-05 | 7.40E-01 | 3.44E-01 | 2.54E-01 |
| 72 | 2,586,330.94 | 787.4823497 | 0.02 | 1.21E+03 | 7.15E-01 | 5.56E+05 | 4.08E-02 | 1212.268668 | 987.99 | 2.18E-05 | 7.41E-01 | 3.44E-01 | 2.55E-01 |
| 73 | 2,622,252.20 | 790.4213528 | 0.02 | 1.21E+03 | 7.13E-01 | 5.58E+05 | 4.07E-02 | 1211.347271 | 986.97 | 2.18E-05 | 7.42E-01 | 3.44E-01 | 2.56E-01 |
| 74 | 2,658,173.47 | 793.3311139 | 0.02 | 1.21E+03 | 7.12E-01 | 5.60E+05 | 4.05E-02 | 1210.422623 | 985.93 | 2.17E-05 | 7.44E-01 | 3.44E-01 | 2.56E-01 |
| 75 | 2,694,094.73 | 796.2123134 | 0.02 | 1.21E+03 | 7.10E-01 | 5.62E+05 | 4.04E-02 | 1209.494963 | 984.90 | 2.17E-05 | 7.45E-01 | 3.45E-01 | 2.57E-01 |
| 76 | 2,730,015.99 | 799.0656069 | 0.02 | 1.20E+03 | 7.08E-01 | 5.64E+05 | 4.03E-02 | 1208.564513 | 983.87 | 2.16E-05 | 7.46E-01 | 3.45E-01 | 2.57E-01 |
| 77 | 2,765,937.26 | 801.8916266 | 0.02 | 1.20E+03 | 7.07E-01 | 5.65E+05 | 4.02E-02 | 1207.631484 | 982.83 | 2.16E-05 | 7.47E-01 | 3.45E-01 | 2.58E-01 |
| 78 | 2,801,858.52 | 804.6909825 | 0.02 | 1.20E+03 | 7.05E-01 | 5.67E+05 | 4.00E-02 | 1206.696076 | 981.79 | 2.15E-05 | 7.48E-01 | 3.45E-01 | 2.58E-01 |
| 79 | 2,837,779.78 | 807.4642631 | 0.02 | 1.20E+03 | 7.04E-01 | 5.69E+05 | 3.99E-02 | 1205.758477 | 980.75 | 2.15E-05 | 7.49E-01 | 3.45E-01 | 2.59E-01 |
| 80 | 2,873,701.05 | 810.2120368 | 0.02 | 1.19E+03 | 7.02E-01 | 5.70E+05 | 3.98E-02 | 1204.818862 | 979.71 | 2.14E-05 | 7.51E-01 | 3.46E-01 | 2.59E-01 |
| 81 | 2,909,622.31 | 812.9348527 | 0.02 | 1.19E+03 | 7.01E-01 | 5.72E+05 | 3.97E-02 | 1203.8774 | 978.67 | 2.14E-05 | 7.52E-01 | 3.46E-01 | 2.60E-01 |
| 82 | 2,945,543.57 | 815.6332415 | 0.02 | 1.19E+03 | 7.00E-01 | 5.73E+05 | 3.96E-02 | 1202.934249 | 977.63 | 2.14E-05 | 7.53E-01 | 3.46E-01 | 2.61E-01 |
| 83 | 2,981,464.83 | 818.3077162 | 0.02 | 1.19E+03 | 6.98E-01 | 5.74E+05 | 3.95E-02 | 1201.989557 | 976.59 | 2.13E-05 | 7.54E-01 | 3.46E-01 | 2.61E-01 |
| 84 | 3,017,386.10 | 820.9587732 | 0.02 | 1.18E+03 | 6.97E-01 | 5.76E+05 | 3.94E-02 | 1201.043467 | 975.54 | 2.13E-05 | 7.55E-01 | 3.47E-01 | 2.62E-01 |
| 85 | 3,053,307.36 | 823.5868926 | 0.02 | 1.18E+03 | 6.95E-01 | 5.77E+05 | 3.93E-02 | 1200.096111 | 974.50 | 2.12E-05 | 7.56E-01 | 3.47E-01 | 2.62E-01 |
| 86 | 3,089,228.62 | 826.1925392 | 0.02 | 1.18E+03 | 6.94E-01 | 5.78E+05 | 3.92E-02 | 1199.147616 | 973.45 | 2.12E-05 | 7.57E-01 | 3.47E-01 | 2.63E-01 |
| 87 | 3,125,149.89 | 828.7761633 | 0.02 | 1.18E+03 | 6.93E-01 | 5.80E+05 | 3.92E-02 | 1198.198102 | 972.41 | 2.11E-05 | 7.58E-01 | 3.47E-01 | 2.63E-01 |
| 88 | 3,161,071.15 | 831.3382009 | 0.02 | 1.17E+03 | 6.91E-01 | 5.81E+05 | 3.91E-02 | 1197.247681 | 971.36 | 2.11E-05 | 7.59E-01 | 3.47E-01 | 2.64E-01 |
| 89 | 3,196,992.41 | 833.8790746 | 0.02 | 1.17E+03 | 6.90E-01 | 5.82E+05 | 3.90E-02 | 1196.29646 | 970.32 | 2.11E-05 | 7.60E-01 | 3.48E-01 | 2.64E-01 |
| 90 | 3,232,913.68 | 836.3991942 | 0.02 | 1.17E+03 | 6.88E-01 | 5.83E+05 | 3.89E-02 | 1195.344541 | 969.27 | 2.10E-05 | 7.61E-01 | 3.48E-01 | 2.65E-01 |
| 91 | 3,268,834.94 | 838.8989569 | 0.02 | 1.17E+03 | 6.87E-01 | 5.84E+05 | 3.89E-02 | 1194.392021 | 968.23 | 2.10E-05 | 7.62E-01 | 3.48E-01 | 2.65E-01 |
| 92 | 3,304,756.20 | 841.3787483 | 0.02 | 1.17E+03 | 6.86E-01 | 5.85E+05 | 3.88E-02 | 1193.438988 | 967.18 | 2.09E-05 | 7.63E-01 | 3.48E-01 | 2.66E-01 |
| 93 | 3,340,677.47 | 843.8389423 | 0.02 | 1.16E+03 | 6.84E-01 | 5.86E+05 | 3.87E-02 | 1192.485531 | 966.14 | 2.09E-05 | 7.64E-01 | 3.49E-01 | 2.66E-01 |
| 94 | 3,376,598.73 | 846.2799021 | 0.02 | 1.16E+03 | 6.83E-01 | 5.87E+05 | 3.87E-02 | 1191.53173 | 965.09 | 2.09E-05 | 7.65E-01 | 3.49E-01 | 2.67E-01 |
| 95 | 3,412,519.99 | 848.7019804 | 0.02 | 1.16E+03 | 6.82E-01 | 5.88E+05 | 3.86E-02 | 1190.577663 | 964.05 | 2.08E-05 | 7.66E-01 | 3.49E-01 | 2.67E-01 |
| 96 | 3,448,441.25 | 851.1055196 | 0.02 | 1.16E+03 | 6.81E-01 | 5.89E+05 | 3.85E-02 | 1189.623404 | 963.01 | 2.08E-05 | 7.67E-01 | 3.49E-01 | 2.68E-01 |
| 97 | 3,484,362.52 | 853.4908525 | 0.02 | 1.15E+03 | 6.79E-01 | 5.90E+05 | 3.85E-02 | 1188.669021 | 961.96 | 2.07E-05 | 7.68E-01 | 3.50E-01 | 2.68E-01 |
| 98 | 3,520,283.78 | 855.8583028 | 0.02 | 1.15E+03 | 6.78E-01 | 5.91E+05 | 3.84E-02 | 1187.714581 | 960.92 | 2.07E-05 | 7.69E-01 | 3.50E-01 | 2.69E-01 |
| 99 | 3,556,205.04 | 858.2081847 | 0.02 | 1.15E+03 | 6.77E-01 | 5.91E+05 | 3.84E-02 | 1186.760146 | 959.88 | 2.07E-05 | 7.69E-01 | 3.50E-01 | 2.69E-01 |
| 100 | 3,592,126.31 | 860.5408044 | 0.02 | 1.15E+03 | 6.75E-01 | 5.92E+05 | 3.83E-02 | 1185.805776 | 958.84 | 2.06E-05 | 7.70E-01 | 3.50E-01 | 2.70E-01 |

Table B.3: Mach = 0.85 and Turbine Inlet Temperature = 1700

# Appendix C

# APPENDIX C: MACH 1 CALCULATIONS

| Mach = 1 and Turbine Inlet Temperature = 1500 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 260.13 | | | | | | | | | | | | |
| Pt2 | 42,216.26 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=1 T=1500 | M=1 T=1500 | M=1 T=1500 | M=1 T=1500 | M=1 T=1500 |
| 1 | 42,216.26 | 260.130294 | 0.03 | 1.50E+03 | 1.00E+00 | 4.22E+04 | 5.38E-01 | 693.6887526 | 419.57 | 7.04E-05 | 1.54E-01 | 6.05E-01 | 9.30E-02 |
| 2 | 84,432.52 | 313.683015 | 0.03 | 1.45E+03 | 9.68E-01 | 7.30E+04 | 3.11E-01 | 904.4402064 | 635.36 | 4.44E-05 | 2.97E-01 | 4.96E-01 | 1.47E-01 |
| 3 | 126,648.79 | 349.984247 | 0.03 | 1.42E+03 | 9.46E-01 | 9.89E+04 | 2.29E-01 | 984.9324213 | 717.26 | 3.81E-05 | 3.70E-01 | 4.65E-01 | 1.72E-01 |
| 4 | 168,865.05 | 378.2605724 | 0.03 | 1.39E+03 | 9.30E-01 | 1.22E+05 | 1.87E-01 | 1029.118389 | 761.94 | 3.50E-05 | 4.17E-01 | 4.49E-01 | 1.87E-01 |
| 5 | 211,081.31 | 401.7573703 | 0.03 | 1.37E+03 | 9.15E-01 | 1.42E+05 | 1.60E-01 | 1057.194073 | 790.16 | 3.30E-05 | 4.51E-01 | 4.39E-01 | 1.98E-01 |
| 6 | 253,297.57 | 422.0350968 | 0.03 | 1.35E+03 | 9.03E-01 | 1.60E+05 | 1.42E-01 | 1076.513073 | 809.45 | 3.16E-05 | 4.78E-01 | 4.33E-01 | 2.07E-01 |
| 7 | 295,513.83 | 439.9761029 | 0.03 | 1.34E+03 | 8.93E-01 | 1.77E+05 | 1.28E-01 | 1090.477386 | 823.30 | 3.06E-05 | 5.00E-01 | 4.28E-01 | 2.14E-01 |
| 8 | 337,730.09 | 456.1326364 | 0.02 | 1.32E+03 | 8.83E-01 | 1.93E+05 | 1.18E-01 | 1100.902787 | 833.55 | 2.97E-05 | 5.18E-01 | 4.25E-01 | 2.20E-01 |
| 9 | 379,946.36 | 470.875465 | 0.02 | 1.31E+03 | 8.74E-01 | 2.07E+05 | 1.10E-01 | 1108.856378 | 841.30 | 2.90E-05 | 5.34E-01 | 4.23E-01 | 2.26E-01 |
| 10 | 422,162.62 | 484.4666927 | 0.02 | 1.30E+03 | 8.66E-01 | 2.20E+05 | 1.03E-01 | 1115.010508 | 847.24 | 2.84E-05 | 5.48E-01 | 4.21E-01 | 2.30E-01 |
| 11 | 464,378.88 | 497.0990931 | 0.02 | 1.29E+03 | 8.58E-01 | 2.33E+05 | 9.75E-02 | 1119.8118 | 851.81 | 2.79E-05 | 5.60E-01 | 4.19E-01 | 2.35E-01 |
| 12 | 506,595.14 | 508.9189712 | 0.02 | 1.28E+03 | 8.51E-01 | 2.44E+05 | 9.29E-02 | 1123.569523 | 855.33 | 2.74E-05 | 5.71E-01 | 4.18E-01 | 2.39E-01 |
| 13 | 548,811.40 | 520.0402359 | 0.02 | 1.27E+03 | 8.44E-01 | 2.55E+05 | 8.89E-02 | 1126.505143 | 858.03 | 2.70E-05 | 5.80E-01 | 4.17E-01 | 2.42E-01 |
| 14 | 591,027.67 | 530.5534713 | 0.02 | 1.26E+03 | 8.38E-01 | 2.66E+05 | 8.54E-02 | 1128.781699 | 860.07 | 2.67E-05 | 5.89E-01 | 4.17E-01 | 2.45E-01 |
| 15 | 633,243.93 | 540.5320101 | 0.02 | 1.25E+03 | 8.32E-01 | 2.75E+05 | 8.24E-02 | 1130.52204 | 861.57 | 2.63E-05 | 5.97E-01 | 4.16E-01 | 2.48E-01 |
| 16 | 675,460.19 | 550.0361317 | 0.02 | 1.24E+03 | 8.26E-01 | 2.85E+05 | 7.97E-02 | 1131.820578 | 862.64 | 2.60E-05 | 6.05E-01 | 4.16E-01 | 2.51E-01 |
| 17 | 717,676.45 | 559.1160436 | 0.02 | 1.23E+03 | 8.21E-01 | 2.93E+05 | 7.74E-02 | 1132.751118 | 863.34 | 2.58E-05 | 6.12E-01 | 4.15E-01 | 2.54E-01 |
| 18 | 759,892.71 | 567.8140492 | 0.02 | 1.22E+03 | 8.16E-01 | 3.02E+05 | 7.52E-02 | 1133.372215 | 863.74 | 2.55E-05 | 6.18E-01 | 4.15E-01 | 2.57E-01 |
| 19 | 802,108.97 | 576.1661553 | 0.02 | 1.22E+03 | 8.11E-01 | 3.09E+05 | 7.33E-02 | 1133.730937 | 863.87 | 2.53E-05 | 6.24E-01 | 4.15E-01 | 2.59E-01 |
| 20 | 844,325.24 | 584.2032872 | 0.02 | 1.21E+03 | 8.06E-01 | 3.17E+05 | 7.16E-02 | 1133.865553 | 863.79 | 2.50E-05 | 6.30E-01 | 4.15E-01 | 2.61E-01 |
| 21 | 886,541.50 | 591.9522201 | 0.02 | 1.20E+03 | 8.01E-01 | 3.24E+05 | 7.01E-02 | 1133.807503 | 863.51 | 2.48E-05 | 6.35E-01 | 4.15E-01 | 2.64E-01 |
| 22 | 928,757.76 | 599.4363052 | 0.02 | 1.19E+03 | 7.97E-01 | 3.31E+05 | 6.87E-02 | 1133.582851 | 863.08 | 2.46E-05 | 6.40E-01 | 4.15E-01 | 2.66E-01 |
| 23 | 970,974.02 | 606.6760406 | 0.02 | 1.19E+03 | 7.92E-01 | 3.37E+05 | 6.74E-02 | 1133.213387 | 862.50 | 2.45E-05 | 6.45E-01 | 4.15E-01 | 2.68E-01 |
| 24 | 1,013,190.28 | 613.6895278 | 0.02 | 1.18E+03 | 7.88E-01 | 3.43E+05 | 6.62E-02 | 1132.717464 | 861.80 | 2.43E-05 | 6.50E-01 | 4.15E-01 | 2.70E-01 |
| 25 | 1,055,406.55 | 620.4928387 | 0.02 | 1.18E+03 | 7.84E-01 | 3.49E+05 | 6.51E-02 | 1132.110647 | 860.99 | 2.41E-05 | 6.54E-01 | 4.15E-01 | 2.72E-01 |
| 26 | 1,097,622.81 | 627.1003143 | 0.02 | 1.17E+03 | 7.80E-01 | 3.54E+05 | 6.41E-02 | 1131.406217 | 860.09 | 2.39E-05 | 6.58E-01 | 4.16E-01 | 2.73E-01 |
| 27 | 1,139,839.07 | 633.5248098 | 0.02 | 1.16E+03 | 7.76E-01 | 3.59E+05 | 6.31E-02 | 1130.615573 | 859.11 | 2.38E-05 | 6.62E-01 | 4.16E-01 | 2.75E-01 |
| 28 | 1,182,055.33 | 639.7778973 | 0.02 | 1.16E+03 | 7.72E-01 | 3.64E+05 | 6.23E-02 | 1129.74855 | 858.05 | 2.36E-05 | 6.66E-01 | 4.16E-01 | 2.77E-01 |
| 29 | 1,224,271.59 | 645.8700344 | 0.02 | 1.15E+03 | 7.68E-01 | 3.69E+05 | 6.15E-02 | 1128.813673 | 856.93 | 2.35E-05 | 6.69E-01 | 4.16E-01 | 2.79E-01 |
| 30 | 1,266,487.85 | 651.8107062 | 0.02 | 1.15E+03 | 7.65E-01 | 3.74E+05 | 6.07E-02 | 1127.818368 | 855.75 | 2.34E-05 | 6.73E-01 | 4.17E-01 | 2.80E-01 |
| 31 | 1,308,704.12 | 657.6085447 | 0.02 | 1.14E+03 | 7.61E-01 | 3.78E+05 | 6.01E-02 | 1126.769127 | 854.52 | 2.32E-05 | 6.76E-01 | 4.17E-01 | 2.82E-01 |
| 32 | 1,350,920.38 | 663.2714302 | 0.02 | 1.14E+03 | 7.58E-01 | 3.82E+05 | 5.94E-02 | 1125.671649 | 853.24 | 2.31E-05 | 6.80E-01 | 4.17E-01 | 2.83E-01 |
| 33 | 1,393,136.64 | 668.8065781 | 0.02 | 1.13E+03 | 7.55E-01 | 3.86E+05 | 5.88E-02 | 1124.530955 | 851.93 | 2.30E-05 | 6.83E-01 | 4.17E-01 | 2.85E-01 |
| 34 | 1,435,352.90 | 674.2206131 | 0.02 | 1.13E+03 | 7.51E-01 | 3.90E+05 | 5.83E-02 | 1123.351482 | 850.58 | 2.29E-05 | 6.86E-01 | 4.18E-01 | 2.86E-01 |
| 35 | 1,477,569.16 | 679.5196336 | 0.02 | 1.12E+03 | 7.48E-01 | 3.93E+05 | 5.77E-02 | 1122.137167 | 849.19 | 2.27E-05 | 6.89E-01 | 4.18E-01 | 2.88E-01 |
| 36 | 1,519,785.43 | 684.709267 | 0.02 | 1.12E+03 | 7.45E-01 | 3.97E+05 | 5.72E-02 | 1120.891507 | 847.78 | 2.26E-05 | 6.91E-01 | 4.18E-01 | 2.89E-01 |
| 37 | 1,562,001.69 | 689.7947181 | 0.02 | 1.11E+03 | 7.42E-01 | 4.00E+05 | 5.68E-02 | 1119.617623 | 846.35 | 2.25E-05 | 6.94E-01 | 4.19E-01 | 2.91E-01 |
| 38 | 1,604,217.95 | 694.7808115 | 0.02 | 1.11E+03 | 7.39E-01 | 4.03E+05 | 5.64E-02 | 1118.318306 | 844.89 | 2.24E-05 | 6.97E-01 | 4.19E-01 | 2.92E-01 |
| 39 | 1,646,434.21 | 699.6720281 | 0.02 | 1.10E+03 | 7.36E-01 | 4.06E+05 | 5.59E-02 | 1116.996053 | 843.41 | 2.23E-05 | 6.99E-01 | 4.20E-01 | 2.93E-01 |
| 40 | 1,688,650.47 | 704.4725383 | 0.02 | 1.10E+03 | 7.33E-01 | 4.08E+05 | 5.56E-02 | 1115.65311 | 841.91 | 2.22E-05 | 7.02E-01 | 4.20E-01 | 2.95E-01 |
| 41 | 1,730,866.73 | 709.1862301 | 0.02 | 1.09E+03 | 7.30E-01 | 4.11E+05 | 5.52E-02 | 1114.291498 | 840.39 | 2.21E-05 | 7.04E-01 | 4.20E-01 | 2.96E-01 |
| 42 | 1,773,083.00 | 713.8167351 | 0.02 | 1.09E+03 | 7.27E-01 | 4.14E+05 | 5.49E-02 | 1112.913039 | 838.86 | 2.20E-05 | 7.06E-01 | 4.21E-01 | 2.97E-01 |
| 43 | 1,815,299.26 | 718.3674505 | 0.02 | 1.09E+03 | 7.24E-01 | 4.16E+05 | 5.46E-02 | 1111.51938 | 837.32 | 2.19E-05 | 7.09E-01 | 4.21E-01 | 2.99E-01 |
| 44 | 1,857,515.52 | 722.84156 | 0.02 | 1.08E+03 | 7.22E-01 | 4.18E+05 | 5.43E-02 | 1110.11201 | 835.76 | 2.18E-05 | 7.11E-01 | 4.22E-01 | 3.00E-01 |
| 45 | 1,899,731.78 | 727.242051 | 0.02 | 1.08E+03 | 7.19E-01 | 4.20E+05 | 5.40E-02 | 1108.692281 | 834.20 | 2.18E-05 | 7.13E-01 | 4.22E-01 | 3.01E-01 |
| 46 | 1,941,948.04 | 731.5717313 | 0.02 | 1.07E+03 | 7.16E-01 | 4.22E+05 | 5.37E-02 | 1107.261419 | 832.63 | 2.17E-05 | 7.15E-01 | 4.22E-01 | 3.02E-01 |
| 47 | 1,984,164.31 | 735.8332433 | 0.02 | 1.07E+03 | 7.14E-01 | 4.24E+05 | 5.35E-02 | 1105.82054 | 831.04 | 2.16E-05 | 7.17E-01 | 4.23E-01 | 3.03E-01 |
| 48 | 2,026,380.57 | 740.029077 | 0.02 | 1.07E+03 | 7.11E-01 | 4.26E+05 | 5.33E-02 | 1104.370659 | 829.45 | 2.15E-05 | 7.19E-01 | 4.23E-01 | 3.04E-01 |
| 49 | 2,068,596.83 | 744.1615819 | 0.02 | 1.06E+03 | 7.09E-01 | 4.28E+05 | 5.31E-02 | 1102.912704 | 827.86 | 2.14E-05 | 7.21E-01 | 4.24E-01 | 3.06E-01 |
| 50 | 2,110,813.09 | 748.2329776 | 0.02 | 1.06E+03 | 7.06E-01 | 4.29E+05 | 5.29E-02 | 1101.447519 | 826.26 | 2.13E-05 | 7.23E-01 | 4.24E-01 | 3.07E-01 |
| 51 | 2,153,029.35 | 752.2453633 | 0.02 | 1.06E+03 | 7.04E-01 | 4.31E+05 | 5.27E-02 | 1099.975878 | 824.65 | 2.13E-05 | 7.25E-01 | 4.25E-01 | 3.08E-01 |
| 52 | 2,195,245.61 | 756.2007265 | 0.02 | 1.05E+03 | 7.01E-01 | 4.32E+05 | 5.25E-02 | 1098.498487 | 823.04 | 2.12E-05 | 7.27E-01 | 4.25E-01 | 3.09E-01 |
| 53 | 2,237,461.88 | 760.1009514 | 0.02 | 1.05E+03 | 6.99E-01 | 4.34E+05 | 5.23E-02 | 1097.015995 | 821.43 | 2.11E-05 | 7.29E-01 | 4.25E-01 | 3.10E-01 |
| 54 | 2,279,678.14 | 763.9478255 | 0.02 | 1.04E+03 | 6.97E-01 | 4.35E+05 | 5.22E-02 | 1095.528994 | 819.82 | 2.10E-05 | 7.30E-01 | 4.26E-01 | 3.11E-01 |
| 55 | 2,321,894.40 | 767.7430465 | 0.02 | 1.04E+03 | 6.94E-01 | 4.36E+05 | 5.20E-02 | 1094.038029 | 818.20 | 2.10E-05 | 7.32E-01 | 4.26E-01 | 3.12E-01 |
| 56 | 2,364,110.66 | 771.4882287 | 0.02 | 1.04E+03 | 6.92E-01 | 4.37E+05 | 5.19E-02 | 1092.543601 | 816.58 | 2.09E-05 | 7.34E-01 | 4.27E-01 | 3.13E-01 |
| 57 | 2,406,326.92 | 775.184908 | 0.02 | 1.03E+03 | 6.90E-01 | 4.38E+05 | 5.18E-02 | 1091.046168 | 814.96 | 2.08E-05 | 7.35E-01 | 4.27E-01 | 3.14E-01 |
| 58 | 2,448,543.19 | 778.834547 | 0.02 | 1.03E+03 | 6.88E-01 | 4.39E+05 | 5.17E-02 | 1089.546153 | 813.33 | 2.08E-05 | 7.37E-01 | 4.28E-01 | 3.15E-01 |
| 59 | 2,490,759.45 | 782.4385403 | 0.02 | 1.03E+03 | 6.85E-01 | 4.40E+05 | 5.16E-02 | 1088.043946 | 811.71 | 2.07E-05 | 7.39E-01 | 4.28E-01 | 3.16E-01 |
| 60 | 2,532,975.71 | 785.9982181 | 0.02 | 1.02E+03 | 6.83E-01 | 4.41E+05 | 5.15E-02 | 1086.539903 | 810.09 | 2.06E-05 | 7.40E-01 | 4.29E-01 | 3.17E-01 |
| 61 | 2,575,191.97 | 789.5148504 | 0.02 | 1.02E+03 | 6.81E-01 | 4.42E+05 | 5.14E-02 | 1085.034355 | 808.46 | 2.06E-05 | 7.42E-01 | 4.29E-01 | 3.18E-01 |
| 62 | 2,617,408.23 | 792.9896508 | 0.02 | 1.02E+03 | 6.79E-01 | 4.42E+05 | 5.13E-02 | 1083.527605 | 806.84 | 2.05E-05 | 7.43E-01 | 4.30E-01 | 3.19E-01 |
| 63 | 2,659,624.49 | 796.4237799 | 0.02 | 1.02E+03 | 6.77E-01 | 4.43E+05 | 5.13E-02 | 1082.019932 | 805.22 | 2.04E-05 | 7.45E-01 | 4.30E-01 | 3.20E-01 |
| 64 | 2,701,840.76 | 799.818348 | 0.02 | 1.01E+03 | 6.75E-01 | 4.43E+05 | 5.12E-02 | 1080.511596 | 803.59 | 2.04E-05 | 7.46E-01 | 4.31E-01 | 3.21E-01 |
| 65 | 2,744,057.02 | 803.1744185 | 0.02 | 1.01E+03 | 6.73E-01 | 4.44E+05 | 5.11E-02 | 1079.002834 | 801.97 | 2.03E-05 | 7.48E-01 | 4.31E-01 | 3.22E-01 |
| 66 | 2,786,273.28 | 806.4930103 | 0.02 | 1.01E+03 | 6.71E-01 | 4.44E+05 | 5.11E-02 | 1077.493865 | 800.35 | 2.03E-05 | 7.49E-01 | 4.31E-01 | 3.23E-01 |
| 67 | 2,828,489.54 | 809.7751005 | 0.02 | 1.00E+03 | 6.69E-01 | 4.45E+05 | 5.10E-02 | 1075.984893 | 798.73 | 2.02E-05 | 7.50E-01 | 4.32E-01 | 3.24E-01 |
| 68 | 2,870,705.80 | 813.0216264 | 0.02 | 1.00E+03 | 6.67E-01 | 4.45E+05 | 5.10E-02 | 1074.476103 | 797.11 | 2.01E-05 | 7.52E-01 | 4.32E-01 | 3.25E-01 |
| 69 | 2,912,922.06 | 816.2334881 | 0.02 | 9.97E+02 | 6.65E-01 | 4.45E+05 | 5.10E-02 | 1072.967669 | 795.50 | 2.01E-05 | 7.53E-01 | 4.33E-01 | 3.26E-01 |
| 70 | 2,955,138.33 | 819.4115501 | 0.02 | 9.94E+02 | 6.63E-01 | 4.46E+05 | 5.09E-02 | 1071.45975 | 793.88 | 2.00E-05 | 7.54E-01 | 4.33E-01 | 3.27E-01 |
| 71 | 2,997,354.59 | 822.5566434 | 0.02 | 9.91E+02 | 6.61E-01 | 4.46E+05 | 5.09E-02 | 1069.952492 | 792.27 | 2.00E-05 | 7.56E-01 | 4.34E-01 | 3.28E-01 |
| 72 | 3,039,570.85 | 825.6695672 | 0.02 | 9.88E+02 | 6.59E-01 | 4.46E+05 | 5.09E-02 | 1068.44603 | 790.66 | 1.99E-05 | 7.57E-01 | 4.34E-01 | 3.29E-01 |
| 73 | 3,081,787.11 | 828.7510907 | 0.02 | 9.86E+02 | 6.57E-01 | 4.46E+05 | 5.09E-02 | 1066.94049 | 789.05 | 1.99E-05 | 7.58E-01 | 4.35E-01 | 3.30E-01 |
| 74 | 3,124,003.37 | 831.8019543 | 0.02 | 9.83E+02 | 6.55E-01 | 4.46E+05 | 5.09E-02 | 1065.435985 | 787.44 | 1.98E-05 | 7.59E-01 | 4.35E-01 | 3.31E-01 |
| 75 | 3,166,219.64 | 834.8228712 | 0.02 | 9.80E+02 | 6.53E-01 | 4.46E+05 | 5.09E-02 | 1063.932623 | 785.84 | 1.98E-05 | 7.61E-01 | 4.36E-01 | 3.31E-01 |
| 76 | 3,208,435.90 | 837.8145289 | 0.02 | 9.77E+02 | 6.52E-01 | 4.46E+05 | 5.09E-02 | 1062.430501 | 784.23 | 1.97E-05 | 7.62E-01 | 4.36E-01 | 3.32E-01 |
| 77 | 3,250,652.16 | 840.7775902 | 0.02 | 9.75E+02 | 6.50E-01 | 4.46E+05 | 5.09E-02 | 1060.929707 | 782.63 | 1.96E-05 | 7.63E-01 | 4.37E-01 | 3.33E-01 |
| 78 | 3,292,868.42 | 843.7126946 | 0.02 | 9.72E+02 | 6.48E-01 | 4.46E+05 | 5.09E-02 | 1059.430324 | 781.03 | 1.96E-05 | 7.64E-01 | 4.37E-01 | 3.34E-01 |
| 79 | 3,335,084.68 | 846.6204593 | 0.02 | 9.69E+02 | 6.46E-01 | 4.46E+05 | 5.09E-02 | 1057.932429 | 779.44 | 1.95E-05 | 7.65E-01 | 4.38E-01 | 3.35E-01 |
| 80 | 3,377,300.94 | 849.5014802 | 0.02 | 9.67E+02 | 6.44E-01 | 4.45E+05 | 5.10E-02 | 1056.43609 | 777.84 | 1.95E-05 | 7.67E-01 | 4.38E-01 | 3.36E-01 |
| 81 | 3,419,517.21 | 852.3563331 | 0.02 | 9.64E+02 | 6.43E-01 | 4.45E+05 | 5.10E-02 | 1054.941371 | 776.25 | 1.94E-05 | 7.68E-01 | 4.39E-01 | 3.37E-01 |
| 82 | 3,461,733.47 | 855.1855743 | 0.02 | 9.61E+02 | 6.41E-01 | 4.45E+05 | 5.10E-02 | 1053.44833 | 774.67 | 1.94E-05 | 7.69E-01 | 4.39E-01 | 3.38E-01 |
| 83 | 3,503,949.73 | 857.9897418 | 0.01 | 9.59E+02 | 6.39E-01 | 4.45E+05 | 5.11E-02 | 1051.957019 | 773.08 | 1.93E-05 | 7.70E-01 | 4.40E-01 | 3.38E-01 |
| 84 | 3,546,165.99 | 860.7693559 | 0.01 | 9.56E+02 | 6.38E-01 | 4.44E+05 | 5.11E-02 | 1050.467488 | 771.50 | 1.93E-05 | 7.71E-01 | 4.40E-01 | 3.39E-01 |
| 85 | 3,588,382.25 | 863.5249201 | 0.01 | 9.54E+02 | 6.36E-01 | 4.44E+05 | 5.11E-02 | 1048.979781 | 769.92 | 1.93E-05 | 7.72E-01 | 4.40E-01 | 3.40E-01 |
| 86 | 3,630,598.52 | 866.2569219 | 0.01 | 9.51E+02 | 6.34E-01 | 4.43E+05 | 5.12E-02 | 1047.493936 | 768.34 | 1.92E-05 | 7.73E-01 | 4.41E-01 | 3.41E-01 |
| 87 | 3,672,814.78 | 868.9658331 | 0.01 | 9.49E+02 | 6.33E-01 | 4.43E+05 | 5.12E-02 | 1046.00999 | 766.76 | 1.92E-05 | 7.74E-01 | 4.41E-01 | 3.42E-01 |
| 88 | 3,715,031.04 | 871.652111 | 0.01 | 9.46E+02 | 6.31E-01 | 4.43E+05 | 5.13E-02 | 1044.527975 | 765.19 | 1.91E-05 | 7.75E-01 | 4.42E-01 | 3.43E-01 |
| 89 | 3,757,247.30 | 874.3161988 | 0.01 | 9.44E+02 | 6.29E-01 | 4.42E+05 | 5.13E-02 | 1043.047921 | 763.62 | 1.91E-05 | 7.76E-01 | 4.42E-01 | 3.43E-01 |
| 90 | 3,799,463.56 | 876.958526 | 0.01 | 9.41E+02 | 6.28E-01 | 4.42E+05 | 5.14E-02 | 1041.569854 | 762.05 | 1.90E-05 | 7.77E-01 | 4.43E-01 | 3.44E-01 |
| 91 | 3,841,679.82 | 879.5795092 | 0.01 | 9.39E+02 | 6.26E-01 | 4.41E+05 | 5.15E-02 | 1040.093796 | 760.49 | 1.90E-05 | 7.78E-01 | 4.43E-01 | 3.45E-01 |
| 92 | 3,883,896.09 | 882.1795526 | 0.01 | 9.37E+02 | 6.24E-01 | 4.40E+05 | 5.15E-02 | 1038.619769 | 758.93 | 1.89E-05 | 7.79E-01 | 4.44E-01 | 3.46E-01 |
| 93 | 3,926,112.35 | 884.7590483 | 0.01 | 9.34E+02 | 6.23E-01 | 4.40E+05 | 5.16E-02 | 1037.147789 | 757.37 | 1.89E-05 | 7.80E-01 | 4.44E-01 | 3.47E-01 |
| 94 | 3,968,328.61 | 887.3183771 | 0.01 | 9.32E+02 | 6.21E-01 | 4.39E+05 | 5.17E-02 | 1035.677873 | 755.82 | 1.88E-05 | 7.81E-01 | 4.45E-01 | 3.47E-01 |
| 95 | 4,010,544.87 | 889.8579086 | 0.01 | 9.30E+02 | 6.20E-01 | 4.39E+05 | 5.18E-02 | 1034.210034 | 754.26 | 1.88E-05 | 7.82E-01 | 4.45E-01 | 3.48E-01 |
| 96 | 4,052,761.13 | 892.3780022 | 0.01 | 9.27E+02 | 6.18E-01 | 4.38E+05 | 5.18E-02 | 1032.744283 | 752.71 | 1.88E-05 | 7.83E-01 | 4.46E-01 | 3.49E-01 |
| 97 | 4,094,977.40 | 894.8790066 | 0.01 | 9.25E+02 | 6.17E-01 | 4.37E+05 | 5.19E-02 | 1031.280629 | 751.17 | 1.87E-05 | 7.84E-01 | 4.46E-01 | 3.50E-01 |
| 98 | 4,137,193.66 | 897.3612611 | 0.01 | 9.23E+02 | 6.15E-01 | 4.36E+05 | 5.20E-02 | 1029.81908 | 749.62 | 1.87E-05 | 7.85E-01 | 4.47E-01 | 3.51E-01 |
| 99 | 4,179,409.92 | 899.8250954 | 0.01 | 9.20E+02 | 6.14E-01 | 4.36E+05 | 5.21E-02 | 1028.359642 | 748.08 | 1.86E-05 | 7.86E-01 | 4.47E-01 | 3.51E-01 |
| 100 | 4,221,626.18 | 902.2708303 | 0.01 | 9.18E+02 | 6.12E-01 | 4.35E+05 | 5.22E-02 | 1026.902319 | 746.54 | 1.86E-05 | 7.87E-01 | 4.48E-01 | 3.52E-01 |

Table C.1: Mach = 1 and Turbine Inlet Temperature = 1500

| Mach = 1 and Turbine Inlet Temperature = 1600 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 260.13 | | | | | | | | | | | | |
| Pt2 | 42,216.26 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=1 T=1600 | M=1 T=1600 | M=1 T=1600 | M=1 T=1600 | M=1 T=1600 |
| 1 | 42,216.26 | 260.130294 | 0.03 | 1.60E+03 | 1.00E+00 | 4.22E+04 | 5.38E-01 | 716.438663 | 444.76 | 7.20E-05 | 1.54E-01 | 5.92E-01 | 9.10E-02 |
| 2 | 84,432.52 | 313.683015 | 0.03 | 1.55E+03 | 9.70E-01 | 7.37E+04 | 3.08E-01 | 938.3584375 | 672.56 | 4.57E-05 | 2.97E-01 | 4.83E-01 | 1.43E-01 |
| 3 | 126,648.79 | 349.984247 | 0.03 | 1.52E+03 | 9.50E-01 | 1.01E+05 | 2.26E-01 | 1023.741126 | 759.65 | 3.92E-05 | 3.70E-01 | 4.51E-01 | 1.67E-01 |
| 4 | 168,865.05 | 378.2605724 | 0.03 | 1.49E+03 | 9.34E-01 | 1.24E+05 | 1.83E-01 | 1071.017641 | 807.60 | 3.61E-05 | 4.17E-01 | 4.35E-01 | 1.82E-01 |
| 5 | 211,081.31 | 401.7573703 | 0.03 | 1.47E+03 | 9.21E-01 | 1.46E+05 | 1.56E-01 | 1101.344187 | 838.17 | 3.41E-05 | 4.52E-01 | 4.25E-01 | 1.92E-01 |
| 6 | 253,297.57 | 422.0350968 | 0.03 | 1.46E+03 | 9.10E-01 | 1.65E+05 | 1.37E-01 | 1122.433621 | 859.31 | 3.26E-05 | 4.79E-01 | 4.19E-01 | 2.01E-01 |
| 7 | 295,513.83 | 439.9761029 | 0.03 | 1.44E+03 | 9.00E-01 | 1.83E+05 | 1.24E-01 | 1137.859455 | 874.67 | 3.16E-05 | 5.00E-01 | 4.14E-01 | 2.07E-01 |
| 8 | 337,730.09 | 456.1326364 | 0.03 | 1.42E+03 | 8.90E-01 | 2.00E+05 | 1.13E-01 | 1149.53201 | 886.21 | 3.07E-05 | 5.19E-01 | 4.11E-01 | 2.13E-01 |
| 9 | 379,946.36 | 470.875465 | 0.03 | 1.41E+03 | 8.82E-01 | 2.16E+05 | 1.05E-01 | 1158.575757 | 895.08 | 3.00E-05 | 5.34E-01 | 4.08E-01 | 2.18E-01 |
| 10 | 422,162.62 | 484.4666927 | 0.03 | 1.40E+03 | 8.75E-01 | 2.30E+05 | 9.85E-02 | 1165.700353 | 902.01 | 2.94E-05 | 5.48E-01 | 4.06E-01 | 2.23E-01 |
| 11 | 464,378.88 | 497.0990931 | 0.03 | 1.39E+03 | 8.67E-01 | 2.44E+05 | 9.29E-02 | 1171.377981 | 907.48 | 2.89E-05 | 5.60E-01 | 4.05E-01 | 2.27E-01 |
| 12 | 506,595.14 | 508.9189712 | 0.03 | 1.38E+03 | 8.61E-01 | 2.57E+05 | 8.82E-02 | 1175.936158 | 911.81 | 2.84E-05 | 5.71E-01 | 4.03E-01 | 2.30E-01 |
| 13 | 548,811.40 | 520.0402359 | 0.03 | 1.37E+03 | 8.54E-01 | 2.70E+05 | 8.42E-02 | 1179.60981 | 915.26 | 2.80E-05 | 5.80E-01 | 4.02E-01 | 2.34E-01 |
| 14 | 591,027.67 | 530.5534713 | 0.03 | 1.36E+03 | 8.49E-01 | 2.81E+05 | 8.07E-02 | 1182.572182 | 918.00 | 2.77E-05 | 5.89E-01 | 4.02E-01 | 2.37E-01 |
| 15 | 633,243.93 | 540.5320101 | 0.03 | 1.35E+03 | 8.43E-01 | 2.92E+05 | 7.76E-02 | 1184.954035 | 920.15 | 2.73E-05 | 5.97E-01 | 4.01E-01 | 2.39E-01 |
| 16 | 675,460.19 | 550.0361317 | 0.02 | 1.34E+03 | 8.38E-01 | 3.03E+05 | 7.49E-02 | 1186.856039 | 921.82 | 2.70E-05 | 6.05E-01 | 4.00E-01 | 2.42E-01 |
| 17 | 717,676.45 | 559.1160436 | 0.02 | 1.33E+03 | 8.32E-01 | 3.13E+05 | 7.25E-02 | 1188.35703 | 923.10 | 2.68E-05 | 6.12E-01 | 4.00E-01 | 2.45E-01 |
| 18 | 759,892.71 | 567.8140492 | 0.02 | 1.32E+03 | 8.28E-01 | 3.22E+05 | 7.04E-02 | 1189.519664 | 924.04 | 2.65E-05 | 6.18E-01 | 4.00E-01 | 2.47E-01 |
| 19 | 802,108.97 | 576.1661553 | 0.02 | 1.32E+03 | 8.23E-01 | 3.32E+05 | 6.85E-02 | 1190.3944 | 924.69 | 2.63E-05 | 6.24E-01 | 3.99E-01 | 2.49E-01 |
| 20 | 844,325.24 | 584.2032872 | 0.02 | 1.31E+03 | 8.18E-01 | 3.40E+05 | 6.67E-02 | 1191.022337 | 925.10 | 2.60E-05 | 6.30E-01 | 3.99E-01 | 2.51E-01 |
| 21 | 886,541.50 | 591.9522201 | 0.02 | 1.30E+03 | 8.14E-01 | 3.49E+05 | 6.51E-02 | 1191.437303 | 925.30 | 2.58E-05 | 6.35E-01 | 3.99E-01 | 2.53E-01 |
| 22 | 928,757.76 | 599.4363052 | 0.02 | 1.30E+03 | 8.10E-01 | 3.57E+05 | 6.37E-02 | 1191.667398 | 925.32 | 2.56E-05 | 6.40E-01 | 3.99E-01 | 2.55E-01 |
| 23 | 970,974.02 | 606.6760406 | 0.02 | 1.29E+03 | 8.06E-01 | 3.64E+05 | 6.23E-02 | 1191.736155 | 925.18 | 2.54E-05 | 6.45E-01 | 3.99E-01 | 2.57E-01 |
| 24 | 1,013,190.28 | 613.6895278 | 0.02 | 1.28E+03 | 8.02E-01 | 3.71E+05 | 6.11E-02 | 1191.663439 | 924.90 | 2.53E-05 | 6.50E-01 | 3.99E-01 | 2.59E-01 |
| 25 | 1,055,406.55 | 620.4928387 | 0.02 | 1.28E+03 | 7.98E-01 | 3.78E+05 | 6.00E-02 | 1191.466125 | 924.50 | 2.51E-05 | 6.54E-01 | 3.99E-01 | 2.61E-01 |
| 26 | 1,097,622.81 | 627.1003143 | 0.02 | 1.27E+03 | 7.94E-01 | 3.85E+05 | 5.89E-02 | 1191.158647 | 923.99 | 2.49E-05 | 6.58E-01 | 3.99E-01 | 2.63E-01 |
| 27 | 1,139,839.07 | 633.5248098 | 0.02 | 1.26E+03 | 7.90E-01 | 3.92E+05 | 5.80E-02 | 1190.753416 | 923.39 | 2.48E-05 | 6.62E-01 | 3.99E-01 | 2.64E-01 |
| 28 | 1,182,055.33 | 639.7778973 | 0.02 | 1.26E+03 | 7.87E-01 | 3.98E+05 | 5.71E-02 | 1190.261163 | 922.70 | 2.46E-05 | 6.66E-01 | 3.99E-01 | 2.66E-01 |
| 29 | 1,224,271.59 | 645.8700344 | 0.02 | 1.25E+03 | 7.83E-01 | 4.04E+05 | 5.62E-02 | 1189.691213 | 921.94 | 2.45E-05 | 6.69E-01 | 3.99E-01 | 2.67E-01 |
| 30 | 1,266,487.85 | 651.8107062 | 0.02 | 1.25E+03 | 7.80E-01 | 4.09E+05 | 5.55E-02 | 1189.051701 | 921.12 | 2.44E-05 | 6.73E-01 | 3.99E-01 | 2.69E-01 |
| 31 | 1,308,704.12 | 657.6085447 | 0.02 | 1.24E+03 | 7.77E-01 | 4.15E+05 | 5.47E-02 | 1188.349759 | 920.23 | 2.42E-05 | 6.76E-01 | 4.00E-01 | 2.70E-01 |
| 32 | 1,350,920.38 | 663.2714302 | 0.02 | 1.24E+03 | 7.74E-01 | 4.20E+05 | 5.40E-02 | 1187.591662 | 919.29 | 2.41E-05 | 6.79E-01 | 4.00E-01 | 2.72E-01 |
| 33 | 1,393,136.64 | 668.8065781 | 0.02 | 1.23E+03 | 7.70E-01 | 4.25E+05 | 5.34E-02 | 1186.78295 | 918.30 | 2.40E-05 | 6.83E-01 | 4.00E-01 | 2.73E-01 |
| 34 | 1,435,352.90 | 674.2206131 | 0.02 | 1.23E+03 | 7.67E-01 | 4.30E+05 | 5.28E-02 | 1185.928533 | 917.27 | 2.39E-05 | 6.86E-01 | 4.00E-01 | 2.74E-01 |
| 35 | 1,477,569.16 | 679.5196336 | 0.02 | 1.22E+03 | 7.64E-01 | 4.35E+05 | 5.22E-02 | 1185.032774 | 916.20 | 2.37E-05 | 6.88E-01 | 4.00E-01 | 2.76E-01 |
| 36 | 1,519,785.43 | 684.709267 | 0.02 | 1.22E+03 | 7.61E-01 | 4.39E+05 | 5.17E-02 | 1184.099564 | 915.10 | 2.36E-05 | 6.91E-01 | 4.01E-01 | 2.77E-01 |
| 37 | 1,562,001.69 | 689.7947181 | 0.02 | 1.21E+03 | 7.58E-01 | 4.43E+05 | 5.12E-02 | 1183.132381 | 913.96 | 2.35E-05 | 6.94E-01 | 4.01E-01 | 2.78E-01 |
| 38 | 1,604,217.95 | 694.7808115 | 0.02 | 1.21E+03 | 7.56E-01 | 4.48E+05 | 5.07E-02 | 1182.134341 | 912.80 | 2.34E-05 | 6.97E-01 | 4.01E-01 | 2.79E-01 |
| 39 | 1,646,434.21 | 699.6720281 | 0.02 | 1.20E+03 | 7.53E-01 | 4.52E+05 | 5.03E-02 | 1181.108247 | 911.61 | 2.33E-05 | 6.99E-01 | 4.01E-01 | 2.81E-01 |
| 40 | 1,688,650.47 | 704.4725383 | 0.02 | 1.20E+03 | 7.50E-01 | 4.55E+05 | 4.98E-02 | 1180.056622 | 910.40 | 2.32E-05 | 7.02E-01 | 4.02E-01 | 2.82E-01 |
| 41 | 1,730,866.73 | 709.1862301 | 0.02 | 1.20E+03 | 7.47E-01 | 4.59E+05 | 4.94E-02 | 1178.981741 | 909.17 | 2.31E-05 | 7.04E-01 | 4.02E-01 | 2.83E-01 |
| 42 | 1,773,083.00 | 713.8167351 | 0.02 | 1.19E+03 | 7.45E-01 | 4.63E+05 | 4.91E-02 | 1177.885667 | 907.91 | 2.30E-05 | 7.06E-01 | 4.02E-01 | 2.84E-01 |
| 43 | 1,815,299.26 | 718.3674505 | 0.02 | 1.19E+03 | 7.42E-01 | 4.66E+05 | 4.87E-02 | 1176.770264 | 906.64 | 2.29E-05 | 7.09E-01 | 4.03E-01 | 2.85E-01 |
| 44 | 1,857,515.52 | 722.84156 | 0.02 | 1.18E+03 | 7.40E-01 | 4.69E+05 | 4.84E-02 | 1175.637228 | 905.36 | 2.29E-05 | 7.11E-01 | 4.03E-01 | 2.86E-01 |
| 45 | 1,899,731.78 | 727.242051 | 0.02 | 1.18E+03 | 7.37E-01 | 4.72E+05 | 4.80E-02 | 1174.488101 | 904.06 | 2.28E-05 | 7.13E-01 | 4.03E-01 | 2.87E-01 |
| 46 | 1,941,948.04 | 731.5717313 | 0.02 | 1.18E+03 | 7.35E-01 | 4.75E+05 | 4.77E-02 | 1173.324287 | 902.75 | 2.27E-05 | 7.15E-01 | 4.04E-01 | 2.89E-01 |
| 47 | 1,984,164.31 | 735.8332433 | 0.02 | 1.17E+03 | 7.32E-01 | 4.78E+05 | 4.75E-02 | 1172.147068 | 901.42 | 2.26E-05 | 7.17E-01 | 4.04E-01 | 2.90E-01 |
| 48 | 2,026,380.57 | 740.029077 | 0.02 | 1.17E+03 | 7.30E-01 | 4.81E+05 | 4.72E-02 | 1170.957615 | 900.09 | 2.25E-05 | 7.19E-01 | 4.04E-01 | 2.91E-01 |
| 49 | 2,068,596.83 | 744.1615819 | 0.02 | 1.16E+03 | 7.28E-01 | 4.84E+05 | 4.69E-02 | 1169.757 | 898.75 | 2.24E-05 | 7.21E-01 | 4.05E-01 | 2.92E-01 |
| 50 | 2,110,813.09 | 748.2329776 | 0.02 | 1.16E+03 | 7.25E-01 | 4.86E+05 | 4.67E-02 | 1168.546204 | 897.39 | 2.24E-05 | 7.23E-01 | 4.05E-01 | 2.93E-01 |
| 51 | 2,153,029.35 | 752.2453633 | 0.02 | 1.16E+03 | 7.23E-01 | 4.89E+05 | 4.64E-02 | 1167.326129 | 896.04 | 2.23E-05 | 7.25E-01 | 4.05E-01 | 2.94E-01 |
| 52 | 2,195,245.61 | 756.2007265 | 0.02 | 1.15E+03 | 7.21E-01 | 4.91E+05 | 4.62E-02 | 1166.097603 | 894.67 | 2.22E-05 | 7.27E-01 | 4.06E-01 | 2.95E-01 |
| 53 | 2,237,461.88 | 760.1009514 | 0.02 | 1.15E+03 | 7.18E-01 | 4.93E+05 | 4.60E-02 | 1164.861387 | 893.30 | 2.22E-05 | 7.28E-01 | 4.06E-01 | 2.96E-01 |
| 54 | 2,279,678.14 | 763.9478255 | 0.02 | 1.15E+03 | 7.16E-01 | 4.96E+05 | 4.58E-02 | 1163.618182 | 891.92 | 2.21E-05 | 7.30E-01 | 4.06E-01 | 2.97E-01 |
| 55 | 2,321,894.40 | 767.7430465 | 0.02 | 1.14E+03 | 7.14E-01 | 4.98E+05 | 4.56E-02 | 1162.368633 | 890.54 | 2.20E-05 | 7.32E-01 | 4.07E-01 | 2.97E-01 |
| 56 | 2,364,110.66 | 771.4882287 | 0.02 | 1.14E+03 | 7.12E-01 | 5.00E+05 | 4.54E-02 | 1161.113336 | 889.15 | 2.19E-05 | 7.33E-01 | 4.07E-01 | 2.98E-01 |
| 57 | 2,406,326.92 | 775.184908 | 0.02 | 1.14E+03 | 7.10E-01 | 5.01E+05 | 4.53E-02 | 1159.852842 | 887.76 | 2.19E-05 | 7.35E-01 | 4.07E-01 | 2.99E-01 |
| 58 | 2,448,543.19 | 778.834547 | 0.02 | 1.13E+03 | 7.08E-01 | 5.03E+05 | 4.51E-02 | 1158.587659 | 886.37 | 2.18E-05 | 7.37E-01 | 4.08E-01 | 3.00E-01 |
| 59 | 2,490,759.45 | 782.4385403 | 0.02 | 1.13E+03 | 7.06E-01 | 5.05E+05 | 4.49E-02 | 1157.318257 | 884.97 | 2.17E-05 | 7.38E-01 | 4.08E-01 | 3.01E-01 |
| 60 | 2,532,975.71 | 785.9982181 | 0.02 | 1.13E+03 | 7.04E-01 | 5.07E+05 | 4.48E-02 | 1156.045071 | 883.57 | 2.17E-05 | 7.40E-01 | 4.08E-01 | 3.02E-01 |
| 61 | 2,575,191.97 | 789.5148504 | 0.02 | 1.12E+03 | 7.02E-01 | 5.08E+05 | 4.47E-02 | 1154.768504 | 882.17 | 2.16E-05 | 7.41E-01 | 4.09E-01 | 3.03E-01 |
| 62 | 2,617,408.23 | 792.9896508 | 0.02 | 1.12E+03 | 7.00E-01 | 5.10E+05 | 4.45E-02 | 1153.48893 | 880.77 | 2.16E-05 | 7.43E-01 | 4.09E-01 | 3.04E-01 |
| 63 | 2,659,624.49 | 796.4237799 | 0.02 | 1.12E+03 | 6.98E-01 | 5.11E+05 | 4.44E-02 | 1152.206696 | 879.37 | 2.15E-05 | 7.44E-01 | 4.09E-01 | 3.05E-01 |
| 64 | 2,701,840.76 | 799.818348 | 0.02 | 1.11E+03 | 6.96E-01 | 5.13E+05 | 4.43E-02 | 1150.922122 | 877.96 | 2.14E-05 | 7.46E-01 | 4.10E-01 | 3.05E-01 |
| 65 | 2,744,057.02 | 803.1744185 | 0.02 | 1.11E+03 | 6.94E-01 | 5.14E+05 | 4.42E-02 | 1149.635508 | 876.56 | 2.14E-05 | 7.47E-01 | 4.10E-01 | 3.06E-01 |
| 66 | 2,786,273.28 | 806.4930103 | 0.02 | 1.11E+03 | 6.92E-01 | 5.15E+05 | 4.41E-02 | 1148.34713 | 875.15 | 2.13E-05 | 7.48E-01 | 4.10E-01 | 3.07E-01 |
| 67 | 2,828,489.54 | 809.7751005 | 0.02 | 1.10E+03 | 6.90E-01 | 5.16E+05 | 4.40E-02 | 1147.057247 | 873.75 | 2.13E-05 | 7.50E-01 | 4.11E-01 | 3.08E-01 |
| 68 | 2,870,705.80 | 813.0216264 | 0.02 | 1.10E+03 | 6.88E-01 | 5.17E+05 | 4.39E-02 | 1145.766097 | 872.34 | 2.12E-05 | 7.51E-01 | 4.11E-01 | 3.09E-01 |
| 69 | 2,912,922.06 | 816.2334881 | 0.02 | 1.10E+03 | 6.86E-01 | 5.18E+05 | 4.38E-02 | 1144.473905 | 870.94 | 2.11E-05 | 7.53E-01 | 4.11E-01 | 3.10E-01 |
| 70 | 2,955,138.33 | 819.4115501 | 0.02 | 1.10E+03 | 6.85E-01 | 5.19E+05 | 4.37E-02 | 1143.180877 | 869.53 | 2.11E-05 | 7.54E-01 | 4.12E-01 | 3.10E-01 |
| 71 | 2,997,354.59 | 822.5566434 | 0.02 | 1.09E+03 | 6.83E-01 | 5.20E+05 | 4.36E-02 | 1141.887206 | 868.12 | 2.10E-05 | 7.55E-01 | 4.12E-01 | 3.11E-01 |
| 72 | 3,039,570.85 | 825.6695672 | 0.02 | 1.09E+03 | 6.81E-01 | 5.21E+05 | 4.35E-02 | 1140.593073 | 866.72 | 2.10E-05 | 7.56E-01 | 4.13E-01 | 3.12E-01 |
| 73 | 3,081,787.11 | 828.7510907 | 0.02 | 1.09E+03 | 6.79E-01 | 5.22E+05 | 4.35E-02 | 1139.298643 | 865.32 | 2.09E-05 | 7.58E-01 | 4.13E-01 | 3.13E-01 |
| 74 | 3,124,003.37 | 831.8019543 | 0.02 | 1.08E+03 | 6.78E-01 | 5.23E+05 | 4.34E-02 | 1138.004074 | 863.91 | 2.09E-05 | 7.59E-01 | 4.13E-01 | 3.14E-01 |
| 75 | 3,166,219.64 | 834.8228712 | 0.02 | 1.08E+03 | 6.76E-01 | 5.23E+05 | 4.34E-02 | 1136.70951 | 862.51 | 2.08E-05 | 7.60E-01 | 4.14E-01 | 3.14E-01 |
| 76 | 3,208,435.90 | 837.8145289 | 0.02 | 1.08E+03 | 6.74E-01 | 5.24E+05 | 4.33E-02 | 1135.415086 | 861.11 | 2.08E-05 | 7.61E-01 | 4.14E-01 | 3.15E-01 |
| 77 | 3,250,652.16 | 840.7775902 | 0.02 | 1.08E+03 | 6.72E-01 | 5.25E+05 | 4.33E-02 | 1134.120929 | 859.71 | 2.07E-05 | 7.62E-01 | 4.14E-01 | 3.16E-01 |
| 78 | 3,292,868.42 | 843.7126946 | 0.02 | 1.07E+03 | 6.71E-01 | 5.25E+05 | 4.32E-02 | 1132.827156 | 858.31 | 2.07E-05 | 7.64E-01 | 4.15E-01 | 3.17E-01 |
| 79 | 3,335,084.68 | 846.6204593 | 0.02 | 1.07E+03 | 6.69E-01 | 5.26E+05 | 4.32E-02 | 1131.533875 | 856.92 | 2.06E-05 | 7.65E-01 | 4.15E-01 | 3.17E-01 |
| 80 | 3,377,300.94 | 849.5014802 | 0.02 | 1.07E+03 | 6.67E-01 | 5.26E+05 | 4.31E-02 | 1130.24119 | 855.52 | 2.06E-05 | 7.66E-01 | 4.16E-01 | 3.18E-01 |
| 81 | 3,419,517.21 | 852.3563331 | 0.02 | 1.07E+03 | 6.66E-01 | 5.27E+05 | 4.31E-02 | 1128.949194 | 854.13 | 2.05E-05 | 7.67E-01 | 4.16E-01 | 3.19E-01 |
| 82 | 3,461,733.47 | 855.1855743 | 0.02 | 1.06E+03 | 6.64E-01 | 5.27E+05 | 4.31E-02 | 1127.657975 | 852.74 | 2.05E-05 | 7.68E-01 | 4.16E-01 | 3.20E-01 |
| 83 | 3,503,949.73 | 857.9897418 | 0.02 | 1.06E+03 | 6.63E-01 | 5.27E+05 | 4.30E-02 | 1126.367617 | 851.35 | 2.04E-05 | 7.69E-01 | 4.17E-01 | 3.20E-01 |
| 84 | 3,546,165.99 | 860.7693559 | 0.02 | 1.06E+03 | 6.61E-01 | 5.28E+05 | 4.30E-02 | 1125.078196 | 849.96 | 2.04E-05 | 7.70E-01 | 4.17E-01 | 3.21E-01 |
| 85 | 3,588,382.25 | 863.5249201 | 0.02 | 1.06E+03 | 6.59E-01 | 5.28E+05 | 4.30E-02 | 1123.789782 | 848.57 | 2.03E-05 | 7.71E-01 | 4.17E-01 | 3.22E-01 |
| 86 | 3,630,598.52 | 866.2569219 | 0.02 | 1.05E+03 | 6.58E-01 | 5.28E+05 | 4.30E-02 | 1122.502442 | 847.19 | 2.03E-05 | 7.72E-01 | 4.18E-01 | 3.23E-01 |
| 87 | 3,672,814.78 | 868.9658331 | 0.02 | 1.05E+03 | 6.56E-01 | 5.28E+05 | 4.30E-02 | 1121.216237 | 845.80 | 2.02E-05 | 7.73E-01 | 4.18E-01 | 3.23E-01 |
| 88 | 3,715,031.04 | 871.652111 | 0.02 | 1.05E+03 | 6.55E-01 | 5.28E+05 | 4.29E-02 | 1119.931224 | 844.42 | 2.02E-05 | 7.74E-01 | 4.19E-01 | 3.24E-01 |
| 89 | 3,757,247.30 | 874.3161988 | 0.02 | 1.05E+03 | 6.53E-01 | 5.29E+05 | 4.29E-02 | 1118.647457 | 843.04 | 2.02E-05 | 7.75E-01 | 4.19E-01 | 3.25E-01 |
| 90 | 3,799,463.56 | 876.958526 | 0.02 | 1.04E+03 | 6.52E-01 | 5.29E+05 | 4.29E-02 | 1117.364984 | 841.67 | 2.01E-05 | 7.76E-01 | 4.19E-01 | 3.25E-01 |
| 91 | 3,841,679.82 | 879.5795092 | 0.02 | 1.04E+03 | 6.50E-01 | 5.29E+05 | 4.29E-02 | 1116.08385 | 840.29 | 2.01E-05 | 7.77E-01 | 4.20E-01 | 3.26E-01 |
| 92 | 3,883,896.09 | 882.1795526 | 0.02 | 1.04E+03 | 6.49E-01 | 5.29E+05 | 4.29E-02 | 1114.804099 | 838.92 | 2.00E-05 | 7.78E-01 | 4.20E-01 | 3.27E-01 |
| 93 | 3,926,112.35 | 884.7590483 | 0.02 | 1.04E+03 | 6.47E-01 | 5.29E+05 | 4.29E-02 | 1113.525768 | 837.55 | 2.00E-05 | 7.79E-01 | 4.20E-01 | 3.28E-01 |
| 94 | 3,968,328.61 | 887.3183771 | 0.02 | 1.03E+03 | 6.46E-01 | 5.29E+05 | 4.29E-02 | 1112.248895 | 836.18 | 1.99E-05 | 7.80E-01 | 4.21E-01 | 3.28E-01 |
| 95 | 4,010,544.87 | 889.8579086 | 0.02 | 1.03E+03 | 6.44E-01 | 5.28E+05 | 4.29E-02 | 1110.973511 | 834.82 | 1.99E-05 | 7.81E-01 | 4.21E-01 | 3.29E-01 |
| 96 | 4,052,761.13 | 892.3780022 | 0.02 | 1.03E+03 | 6.43E-01 | 5.28E+05 | 4.30E-02 | 1109.699647 | 833.45 | 1.99E-05 | 7.82E-01 | 4.22E-01 | 3.30E-01 |
| 97 | 4,094,977.40 | 894.8790066 | 0.02 | 1.03E+03 | 6.41E-01 | 5.28E+05 | 4.30E-02 | 1108.427332 | 832.09 | 1.98E-05 | 7.83E-01 | 4.22E-01 | 3.30E-01 |
| 98 | 4,137,193.66 | 897.3612611 | 0.02 | 1.02E+03 | 6.40E-01 | 5.28E+05 | 4.30E-02 | 1107.156591 | 830.73 | 1.98E-05 | 7.84E-01 | 4.22E-01 | 3.31E-01 |
| 99 | 4,179,409.92 | 899.8250954 | 0.02 | 1.02E+03 | 6.39E-01 | 5.28E+05 | 4.30E-02 | 1105.887447 | 829.38 | 1.97E-05 | 7.85E-01 | 4.23E-01 | 3.32E-01 |
| 100 | 4,221,626.18 | 902.2708303 | 0.02 | 1.02E+03 | 6.37E-01 | 5.28E+05 | 4.30E-02 | 1104.619923 | 828.02 | 1.97E-05 | 7.86E-01 | 4.23E-01 | 3.32E-01 |

Table C.2: Mach = 1 and Turbine Inlet Temperature = 1600

| Mach = 1 and Turbine Inlet Temperature = 1700 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 260.13 | | | | | | | | | | | | |
| Pt2 | 42,216.26 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=1 T=1700 | M=1 T=1700 | M=1 T=1700 | M=1 T=1700 | M=1 T=1700 |
| 1 | 42,216.26 | 260.130294 | 0.03 | 1.70E+03 | 1.00E+00 | 4.22E+04 | 5.38E-01 | 738.4880705 | 469.35 | 7.35E-05 | 1.54E-01 | 5.79E-01 | 8.91E-02 |
| 2 | 84,432.52 | 313.683015 | 0.03 | 1.65E+03 | 9.72E-01 | 7.43E+04 | 3.05E-01 | 971.0909163 | 708.70 | 4.68E-05 | 2.97E-01 | 4.71E-01 | 1.40E-01 |
| 3 | 126,648.79 | 349.984247 | 0.03 | 1.62E+03 | 9.53E-01 | 1.02E+05 | 2.22E-01 | 1061.127001 | 800.78 | 4.03E-05 | 3.70E-01 | 4.39E-01 | 1.62E-01 |
| 4 | 168,865.05 | 378.2605724 | 0.03 | 1.59E+03 | 9.38E-01 | 1.27E+05 | 1.79E-01 | 1111.331179 | 851.84 | 3.71E-05 | 4.17E-01 | 4.23E-01 | 1.76E-01 |
| 5 | 211,081.31 | 401.7573703 | 0.03 | 1.57E+03 | 9.26E-01 | 1.49E+05 | 1.52E-01 | 1143.781496 | 884.65 | 3.51E-05 | 4.52E-01 | 4.13E-01 | 1.87E-01 |
| 6 | 253,297.57 | 422.0350968 | 0.03 | 1.56E+03 | 9.15E-01 | 1.70E+05 | 1.34E-01 | 1166.535346 | 907.53 | 3.36E-05 | 4.79E-01 | 4.06E-01 | 1.95E-01 |
| 7 | 295,513.83 | 439.9761029 | 0.03 | 1.54E+03 | 9.06E-01 | 1.89E+05 | 1.20E-01 | 1183.330582 | 924.32 | 3.26E-05 | 5.01E-01 | 4.02E-01 | 2.01E-01 |
| 8 | 337,730.09 | 456.1326364 | 0.03 | 1.53E+03 | 8.97E-01 | 2.07E+05 | 1.10E-01 | 1196.168026 | 937.07 | 3.17E-05 | 5.19E-01 | 3.98E-01 | 2.07E-01 |
| 9 | 379,946.36 | 470.875465 | 0.03 | 1.51E+03 | 8.89E-01 | 2.24E+05 | 1.01E-01 | 1206.227025 | 946.99 | 3.10E-05 | 5.34E-01 | 3.95E-01 | 2.11E-01 |
| 10 | 422,162.62 | 484.4666927 | 0.03 | 1.50E+03 | 8.82E-01 | 2.40E+05 | 9.46E-02 | 1214.252888 | 954.85 | 3.04E-05 | 5.48E-01 | 3.93E-01 | 2.16E-01 |
| 11 | 464,378.88 | 497.0990931 | 0.03 | 1.49E+03 | 8.76E-01 | 2.55E+05 | 8.91E-02 | 1220.74221 | 961.15 | 2.98E-05 | 5.60E-01 | 3.92E-01 | 2.19E-01 |
| 12 | 506,595.14 | 508.9189712 | 0.03 | 1.48E+03 | 8.69E-01 | 2.69E+05 | 8.43E-02 | 1226.039919 | 966.24 | 2.94E-05 | 5.71E-01 | 3.90E-01 | 2.23E-01 |
| 13 | 548,811.40 | 520.0402359 | 0.03 | 1.47E+03 | 8.63E-01 | 2.83E+05 | 8.03E-02 | 1230.393777 | 970.38 | 2.90E-05 | 5.81E-01 | 3.89E-01 | 2.26E-01 |
| 14 | 591,027.67 | 530.5534713 | 0.03 | 1.46E+03 | 8.58E-01 | 2.96E+05 | 7.68E-02 | 1233.986756 | 973.76 | 2.86E-05 | 5.89E-01 | 3.88E-01 | 2.29E-01 |
| 15 | 633,243.93 | 540.5320101 | 0.03 | 1.45E+03 | 8.53E-01 | 3.08E+05 | 7.37E-02 | 1236.957152 | 976.51 | 2.83E-05 | 5.98E-01 | 3.87E-01 | 2.31E-01 |
| 16 | 675,460.19 | 550.0361317 | 0.03 | 1.44E+03 | 8.48E-01 | 3.20E+05 | 7.10E-02 | 1239.411592 | 978.74 | 2.80E-05 | 6.05E-01 | 3.87E-01 | 2.34E-01 |
| 17 | 717,676.45 | 559.1160436 | 0.03 | 1.43E+03 | 8.43E-01 | 3.31E+05 | 6.86E-02 | 1241.433694 | 980.55 | 2.77E-05 | 6.12E-01 | 3.86E-01 | 2.36E-01 |
| 18 | 759,892.71 | 567.8140492 | 0.03 | 1.42E+03 | 8.38E-01 | 3.42E+05 | 6.64E-02 | 1243.090018 | 981.98 | 2.74E-05 | 6.18E-01 | 3.86E-01 | 2.39E-01 |
| 19 | 802,108.97 | 576.1661553 | 0.03 | 1.42E+03 | 8.34E-01 | 3.52E+05 | 6.45E-02 | 1244.43424 | 983.11 | 2.72E-05 | 6.24E-01 | 3.85E-01 | 2.41E-01 |
| 20 | 844,325.24 | 584.2032872 | 0.03 | 1.41E+03 | 8.29E-01 | 3.62E+05 | 6.27E-02 | 1245.510149 | 983.97 | 2.70E-05 | 6.30E-01 | 3.85E-01 | 2.43E-01 |
| 21 | 886,541.50 | 591.9522201 | 0.03 | 1.40E+03 | 8.25E-01 | 3.71E+05 | 6.11E-02 | 1246.353841 | 984.60 | 2.68E-05 | 6.35E-01 | 3.85E-01 | 2.45E-01 |
| 22 | 928,757.76 | 599.4363052 | 0.03 | 1.40E+03 | 8.21E-01 | 3.81E+05 | 5.96E-02 | 1246.995343 | 985.03 | 2.66E-05 | 6.40E-01 | 3.85E-01 | 2.46E-01 |
| 23 | 970,974.02 | 606.6760406 | 0.03 | 1.39E+03 | 8.17E-01 | 3.89E+05 | 5.83E-02 | 1247.459845 | 985.28 | 2.64E-05 | 6.45E-01 | 3.85E-01 | 2.48E-01 |
| 24 | 1,013,190.28 | 613.6895278 | 0.03 | 1.38E+03 | 8.14E-01 | 3.98E+05 | 5.70E-02 | 1247.768641 | 985.38 | 2.62E-05 | 6.50E-01 | 3.84E-01 | 2.50E-01 |
| 25 | 1,055,406.55 | 620.4928387 | 0.03 | 1.38E+03 | 8.10E-01 | 4.06E+05 | 5.59E-02 | 1247.939851 | 985.35 | 2.60E-05 | 6.54E-01 | 3.84E-01 | 2.51E-01 |
| 26 | 1,097,622.81 | 627.1003143 | 0.03 | 1.37E+03 | 8.07E-01 | 4.14E+05 | 5.48E-02 | 1247.988998 | 985.20 | 2.59E-05 | 6.58E-01 | 3.84E-01 | 2.53E-01 |
| 27 | 1,139,839.07 | 633.5248098 | 0.03 | 1.37E+03 | 8.03E-01 | 4.22E+05 | 5.38E-02 | 1247.929451 | 984.94 | 2.57E-05 | 6.62E-01 | 3.84E-01 | 2.54E-01 |
| 28 | 1,182,055.33 | 639.7778973 | 0.03 | 1.36E+03 | 8.00E-01 | 4.29E+05 | 5.29E-02 | 1247.77279 | 984.59 | 2.56E-05 | 6.66E-01 | 3.84E-01 | 2.56E-01 |
| 29 | 1,224,271.59 | 645.8700344 | 0.03 | 1.35E+03 | 7.97E-01 | 4.36E+05 | 5.20E-02 | 1247.529093 | 984.15 | 2.54E-05 | 6.69E-01 | 3.84E-01 | 2.57E-01 |
| 30 | 1,266,487.85 | 651.8107062 | 0.02 | 1.35E+03 | 7.93E-01 | 4.43E+05 | 5.12E-02 | 1247.207168 | 983.64 | 2.53E-05 | 6.73E-01 | 3.84E-01 | 2.59E-01 |
| 31 | 1,308,704.12 | 657.6085447 | 0.02 | 1.34E+03 | 7.90E-01 | 4.50E+05 | 5.05E-02 | 1246.814752 | 983.06 | 2.52E-05 | 6.76E-01 | 3.85E-01 | 2.60E-01 |
| 32 | 1,350,920.38 | 663.2714302 | 0.02 | 1.34E+03 | 7.87E-01 | 4.56E+05 | 4.98E-02 | 1246.358663 | 982.42 | 2.51E-05 | 6.79E-01 | 3.85E-01 | 2.61E-01 |
| 33 | 1,393,136.64 | 668.8065781 | 0.02 | 1.33E+03 | 7.84E-01 | 4.62E+05 | 4.91E-02 | 1245.84493 | 981.73 | 2.49E-05 | 6.82E-01 | 3.85E-01 | 2.63E-01 |
| 34 | 1,435,352.90 | 674.2206131 | 0.02 | 1.33E+03 | 7.82E-01 | 4.68E+05 | 4.85E-02 | 1245.27891 | 980.98 | 2.48E-05 | 6.85E-01 | 3.85E-01 | 2.64E-01 |
| 35 | 1,477,569.16 | 679.5196336 | 0.02 | 1.32E+03 | 7.79E-01 | 4.74E+05 | 4.79E-02 | 1244.665368 | 980.19 | 2.47E-05 | 6.88E-01 | 3.85E-01 | 2.65E-01 |
| 36 | 1,519,785.43 | 684.709267 | 0.02 | 1.32E+03 | 7.76E-01 | 4.79E+05 | 4.73E-02 | 1244.008566 | 979.36 | 2.46E-05 | 6.91E-01 | 3.85E-01 | 2.66E-01 |
| 37 | 1,562,001.69 | 689.7947181 | 0.02 | 1.31E+03 | 7.73E-01 | 4.85E+05 | 4.68E-02 | 1243.312317 | 978.49 | 2.45E-05 | 6.94E-01 | 3.85E-01 | 2.67E-01 |
| 38 | 1,604,217.95 | 694.7808115 | 0.02 | 1.31E+03 | 7.71E-01 | 4.90E+05 | 4.63E-02 | 1242.580047 | 977.59 | 2.44E-05 | 6.96E-01 | 3.86E-01 | 2.68E-01 |
| 39 | 1,646,434.21 | 699.6720281 | 0.02 | 1.31E+03 | 7.68E-01 | 4.95E+05 | 4.58E-02 | 1241.814843 | 976.66 | 2.43E-05 | 6.99E-01 | 3.86E-01 | 2.70E-01 |
| 40 | 1,688,650.47 | 704.4725383 | 0.02 | 1.30E+03 | 7.65E-01 | 5.00E+05 | 4.54E-02 | 1241.019488 | 975.70 | 2.42E-05 | 7.01E-01 | 3.86E-01 | 2.71E-01 |
| 41 | 1,730,866.73 | 709.1862301 | 0.02 | 1.30E+03 | 7.63E-01 | 5.05E+05 | 4.50E-02 | 1240.196501 | 974.71 | 2.41E-05 | 7.04E-01 | 3.86E-01 | 2.72E-01 |
| 42 | 1,773,083.00 | 713.8167351 | 0.02 | 1.29E+03 | 7.60E-01 | 5.09E+05 | 4.46E-02 | 1239.348166 | 973.70 | 2.40E-05 | 7.06E-01 | 3.86E-01 | 2.73E-01 |
| 43 | 1,815,299.26 | 718.3674505 | 0.02 | 1.29E+03 | 7.58E-01 | 5.14E+05 | 4.42E-02 | 1238.476556 | 972.67 | 2.39E-05 | 7.08E-01 | 3.87E-01 | 2.74E-01 |
| 44 | 1,857,515.52 | 722.84156 | 0.02 | 1.28E+03 | 7.56E-01 | 5.18E+05 | 4.38E-02 | 1237.583559 | 971.62 | 2.38E-05 | 7.10E-01 | 3.87E-01 | 2.75E-01 |
| 45 | 1,899,731.78 | 727.242051 | 0.02 | 1.28E+03 | 7.53E-01 | 5.22E+05 | 4.35E-02 | 1236.670895 | 970.56 | 2.37E-05 | 7.13E-01 | 3.87E-01 | 2.76E-01 |
| 46 | 1,941,948.04 | 731.5717313 | 0.02 | 1.28E+03 | 7.51E-01 | 5.26E+05 | 4.31E-02 | 1235.740135 | 969.47 | 2.37E-05 | 7.15E-01 | 3.87E-01 | 2.77E-01 |
| 47 | 1,984,164.31 | 735.8332433 | 0.02 | 1.27E+03 | 7.49E-01 | 5.30E+05 | 4.28E-02 | 1234.792717 | 968.38 | 2.36E-05 | 7.17E-01 | 3.87E-01 | 2.78E-01 |
| 48 | 2,026,380.57 | 740.029077 | 0.02 | 1.27E+03 | 7.46E-01 | 5.34E+05 | 4.25E-02 | 1233.829958 | 967.26 | 2.35E-05 | 7.19E-01 | 3.88E-01 | 2.79E-01 |
| 49 | 2,068,596.83 | 744.1615819 | 0.02 | 1.27E+03 | 7.44E-01 | 5.38E+05 | 4.22E-02 | 1232.853065 | 966.14 | 2.34E-05 | 7.21E-01 | 3.88E-01 | 2.80E-01 |
| 50 | 2,110,813.09 | 748.2329776 | 0.02 | 1.26E+03 | 7.42E-01 | 5.41E+05 | 4.19E-02 | 1231.863149 | 965.00 | 2.33E-05 | 7.22E-01 | 3.88E-01 | 2.80E-01 |
| 51 | 2,153,029.35 | 752.2453633 | 0.02 | 1.26E+03 | 7.40E-01 | 5.45E+05 | 4.17E-02 | 1230.86123 | 963.86 | 2.33E-05 | 7.24E-01 | 3.88E-01 | 2.81E-01 |
| 52 | 2,195,245.61 | 756.2007265 | 0.02 | 1.25E+03 | 7.38E-01 | 5.48E+05 | 4.14E-02 | 1229.84825 | 962.70 | 2.32E-05 | 7.26E-01 | 3.89E-01 | 2.82E-01 |
| 53 | 2,237,461.88 | 760.1009514 | 0.02 | 1.25E+03 | 7.36E-01 | 5.51E+05 | 4.12E-02 | 1228.825076 | 961.54 | 2.31E-05 | 7.28E-01 | 3.89E-01 | 2.83E-01 |
| 54 | 2,279,678.14 | 763.9478255 | 0.02 | 1.25E+03 | 7.34E-01 | 5.54E+05 | 4.10E-02 | 1227.792508 | 960.37 | 2.31E-05 | 7.30E-01 | 3.89E-01 | 2.84E-01 |
| 55 | 2,321,894.40 | 767.7430465 | 0.02 | 1.24E+03 | 7.32E-01 | 5.57E+05 | 4.07E-02 | 1226.751289 | 959.19 | 2.30E-05 | 7.31E-01 | 3.89E-01 | 2.85E-01 |
| 56 | 2,364,110.66 | 771.4882287 | 0.02 | 1.24E+03 | 7.30E-01 | 5.60E+05 | 4.05E-02 | 1225.702102 | 958.01 | 2.29E-05 | 7.33E-01 | 3.90E-01 | 2.86E-01 |
| 57 | 2,406,326.92 | 775.184908 | 0.02 | 1.24E+03 | 7.28E-01 | 5.63E+05 | 4.03E-02 | 1224.645583 | 956.82 | 2.29E-05 | 7.35E-01 | 3.90E-01 | 2.86E-01 |
| 58 | 2,448,543.19 | 778.834547 | 0.02 | 1.23E+03 | 7.26E-01 | 5.66E+05 | 4.01E-02 | 1223.582319 | 955.62 | 2.28E-05 | 7.36E-01 | 3.90E-01 | 2.87E-01 |
| 59 | 2,490,759.45 | 782.4385403 | 0.02 | 1.23E+03 | 7.24E-01 | 5.68E+05 | 3.99E-02 | 1222.512858 | 954.42 | 2.27E-05 | 7.38E-01 | 3.90E-01 | 2.88E-01 |
| 60 | 2,532,975.71 | 785.9982181 | 0.02 | 1.23E+03 | 7.22E-01 | 5.71E+05 | 3.98E-02 | 1221.437705 | 953.21 | 2.27E-05 | 7.39E-01 | 3.91E-01 | 2.89E-01 |
| 61 | 2,575,191.97 | 789.5148504 | 0.02 | 1.22E+03 | 7.20E-01 | 5.73E+05 | 3.96E-02 | 1220.357334 | 952.00 | 2.26E-05 | 7.41E-01 | 3.91E-01 | 2.90E-01 |
| 62 | 2,617,408.23 | 792.9896508 | 0.02 | 1.22E+03 | 7.18E-01 | 5.76E+05 | 3.94E-02 | 1219.272182 | 950.79 | 2.25E-05 | 7.42E-01 | 3.91E-01 | 2.90E-01 |
| 63 | 2,659,624.49 | 796.4237799 | 0.02 | 1.22E+03 | 7.16E-01 | 5.78E+05 | 3.93E-02 | 1218.182657 | 949.58 | 2.25E-05 | 7.44E-01 | 3.92E-01 | 2.91E-01 |
| 64 | 2,701,840.76 | 799.818348 | 0.02 | 1.21E+03 | 7.14E-01 | 5.80E+05 | 3.91E-02 | 1217.08914 | 948.36 | 2.24E-05 | 7.45E-01 | 3.92E-01 | 2.92E-01 |
| 65 | 2,744,057.02 | 803.1744185 | 0.02 | 1.21E+03 | 7.13E-01 | 5.82E+05 | 3.90E-02 | 1215.991987 | 947.14 | 2.24E-05 | 7.46E-01 | 3.92E-01 | 2.93E-01 |
| 66 | 2,786,273.28 | 806.4930103 | 0.02 | 1.21E+03 | 7.11E-01 | 5.84E+05 | 3.88E-02 | 1214.891527 | 945.92 | 2.23E-05 | 7.48E-01 | 3.92E-01 | 2.93E-01 |
| 67 | 2,828,489.54 | 809.7751005 | 0.02 | 1.21E+03 | 7.09E-01 | 5.86E+05 | 3.87E-02 | 1213.788069 | 944.69 | 2.23E-05 | 7.49E-01 | 3.93E-01 | 2.94E-01 |
| 68 | 2,870,705.80 | 813.0216264 | 0.02 | 1.20E+03 | 7.07E-01 | 5.88E+05 | 3.86E-02 | 1212.681903 | 943.47 | 2.22E-05 | 7.51E-01 | 3.93E-01 | 2.95E-01 |
| 69 | 2,912,922.06 | 816.2334881 | 0.02 | 1.20E+03 | 7.06E-01 | 5.90E+05 | 3.85E-02 | 1211.573297 | 942.24 | 2.21E-05 | 7.52E-01 | 3.93E-01 | 2.96E-01 |
| 70 | 2,955,138.33 | 819.4115501 | 0.02 | 1.20E+03 | 7.04E-01 | 5.92E+05 | 3.83E-02 | 1210.462504 | 941.01 | 2.21E-05 | 7.53E-01 | 3.94E-01 | 2.96E-01 |
| 71 | 2,997,354.59 | 822.5566434 | 0.02 | 1.19E+03 | 7.02E-01 | 5.94E+05 | 3.82E-02 | 1209.34976 | 939.78 | 2.20E-05 | 7.54E-01 | 3.94E-01 | 2.97E-01 |
| 72 | 3,039,570.85 | 825.6695672 | 0.02 | 1.19E+03 | 7.01E-01 | 5.95E+05 | 3.81E-02 | 1208.235285 | 938.55 | 2.20E-05 | 7.56E-01 | 3.94E-01 | 2.98E-01 |
| 73 | 3,081,787.11 | 828.7510907 | 0.02 | 1.19E+03 | 6.99E-01 | 5.97E+05 | 3.80E-02 | 1207.119285 | 937.32 | 2.19E-05 | 7.57E-01 | 3.94E-01 | 2.99E-01 |
| 74 | 3,124,003.37 | 831.8019543 | 0.02 | 1.19E+03 | 6.97E-01 | 5.98E+05 | 3.79E-02 | 1206.001956 | 936.09 | 2.19E-05 | 7.58E-01 | 3.95E-01 | 2.99E-01 |
| 75 | 3,166,219.64 | 834.8228712 | 0.02 | 1.18E+03 | 6.96E-01 | 6.00E+05 | 3.78E-02 | 1204.883477 | 934.86 | 2.18E-05 | 7.59E-01 | 3.95E-01 | 3.00E-01 |
| 76 | 3,208,435.90 | 837.8145289 | 0.02 | 1.18E+03 | 6.94E-01 | 6.01E+05 | 3.77E-02 | 1203.764018 | 933.63 | 2.18E-05 | 7.60E-01 | 3.95E-01 | 3.01E-01 |
| 77 | 3,250,652.16 | 840.7775902 | 0.02 | 1.18E+03 | 6.92E-01 | 6.03E+05 | 3.77E-02 | 1202.64374 | 932.40 | 2.17E-05 | 7.62E-01 | 3.96E-01 | 3.01E-01 |
| 78 | 3,292,868.42 | 843.7126946 | 0.02 | 1.17E+03 | 6.91E-01 | 6.04E+05 | 3.76E-02 | 1201.522791 | 931.17 | 2.17E-05 | 7.63E-01 | 3.96E-01 | 3.02E-01 |
| 79 | 3,335,084.68 | 846.6204593 | 0.02 | 1.17E+03 | 6.89E-01 | 6.05E+05 | 3.75E-02 | 1200.401312 | 929.94 | 2.16E-05 | 7.64E-01 | 3.96E-01 | 3.03E-01 |
| 80 | 3,377,300.94 | 849.5014802 | 0.02 | 1.17E+03 | 6.88E-01 | 6.06E+05 | 3.74E-02 | 1199.279434 | 928.71 | 2.16E-05 | 7.65E-01 | 3.96E-01 | 3.03E-01 |
| 81 | 3,419,517.21 | 852.3563331 | 0.02 | 1.17E+03 | 6.86E-01 | 6.08E+05 | 3.74E-02 | 1198.157281 | 927.48 | 2.15E-05 | 7.66E-01 | 3.97E-01 | 3.04E-01 |
| 82 | 3,461,733.47 | 855.1855743 | 0.02 | 1.16E+03 | 6.85E-01 | 6.09E+05 | 3.73E-02 | 1197.034969 | 926.25 | 2.15E-05 | 7.67E-01 | 3.97E-01 | 3.05E-01 |
| 83 | 3,503,949.73 | 857.9897418 | 0.02 | 1.16E+03 | 6.83E-01 | 6.10E+05 | 3.72E-02 | 1195.912606 | 925.03 | 2.14E-05 | 7.68E-01 | 3.97E-01 | 3.05E-01 |
| 84 | 3,546,165.99 | 860.7693559 | 0.02 | 1.16E+03 | 6.82E-01 | 6.11E+05 | 3.72E-02 | 1194.790294 | 923.80 | 2.14E-05 | 7.69E-01 | 3.98E-01 | 3.06E-01 |
| 85 | 3,588,382.25 | 863.5249201 | 0.02 | 1.16E+03 | 6.80E-01 | 6.12E+05 | 3.71E-02 | 1193.66813 | 922.58 | 2.14E-05 | 7.70E-01 | 3.98E-01 | 3.07E-01 |
| 86 | 3,630,598.52 | 866.2569219 | 0.02 | 1.15E+03 | 6.79E-01 | 6.13E+05 | 3.71E-02 | 1192.546204 | 921.35 | 2.13E-05 | 7.71E-01 | 3.98E-01 | 3.07E-01 |
| 87 | 3,672,814.78 | 868.9658331 | 0.02 | 1.15E+03 | 6.77E-01 | 6.13E+05 | 3.70E-02 | 1191.4246 | 920.13 | 2.13E-05 | 7.72E-01 | 3.99E-01 | 3.08E-01 |
| 88 | 3,715,031.04 | 871.652111 | 0.02 | 1.15E+03 | 6.76E-01 | 6.14E+05 | 3.70E-02 | 1190.303398 | 918.91 | 2.12E-05 | 7.73E-01 | 3.99E-01 | 3.08E-01 |
| 89 | 3,757,247.30 | 874.3161988 | 0.02 | 1.15E+03 | 6.74E-01 | 6.15E+05 | 3.69E-02 | 1189.182671 | 917.69 | 2.12E-05 | 7.74E-01 | 3.99E-01 | 3.09E-01 |
| 90 | 3,799,463.56 | 876.958526 | 0.02 | 1.14E+03 | 6.73E-01 | 6.16E+05 | 3.69E-02 | 1188.062491 | 916.47 | 2.11E-05 | 7.75E-01 | 3.99E-01 | 3.10E-01 |
| 91 | 3,841,679.82 | 879.5795092 | 0.02 | 1.14E+03 | 6.72E-01 | 6.16E+05 | 3.68E-02 | 1186.942923 | 915.25 | 2.11E-05 | 7.76E-01 | 4.00E-01 | 3.10E-01 |
| 92 | 3,883,896.09 | 882.1795526 | 0.02 | 1.14E+03 | 6.70E-01 | 6.17E+05 | 3.68E-02 | 1185.824028 | 914.03 | 2.11E-05 | 7.77E-01 | 4.00E-01 | 3.11E-01 |
| 93 | 3,926,112.35 | 884.7590483 | 0.02 | 1.14E+03 | 6.69E-01 | 6.18E+05 | 3.67E-02 | 1184.705865 | 912.82 | 2.10E-05 | 7.78E-01 | 4.00E-01 | 3.12E-01 |
| 94 | 3,968,328.61 | 887.3183771 | 0.02 | 1.13E+03 | 6.67E-01 | 6.18E+05 | 3.67E-02 | 1183.588488 | 911.61 | 2.10E-05 | 7.79E-01 | 4.01E-01 | 3.12E-01 |
| 95 | 4,010,544.87 | 889.8579086 | 0.02 | 1.13E+03 | 6.66E-01 | 6.19E+05 | 3.67E-02 | 1182.471948 | 910.40 | 2.09E-05 | 7.80E-01 | 4.01E-01 | 3.13E-01 |
| 96 | 4,052,761.13 | 892.3780022 | 0.02 | 1.13E+03 | 6.65E-01 | 6.19E+05 | 3.67E-02 | 1181.356292 | 909.19 | 2.09E-05 | 7.81E-01 | 4.01E-01 | 3.13E-01 |
| 97 | 4,094,977.40 | 894.8790066 | 0.02 | 1.13E+03 | 6.63E-01 | 6.20E+05 | 3.66E-02 | 1180.241566 | 907.98 | 2.09E-05 | 7.82E-01 | 4.01E-01 | 3.14E-01 |
| 98 | 4,137,193.66 | 897.3612611 | 0.02 | 1.13E+03 | 6.62E-01 | 6.20E+05 | 3.66E-02 | 1179.127811 | 906.77 | 2.08E-05 | 7.83E-01 | 4.02E-01 | 3.15E-01 |
| 99 | 4,179,409.92 | 899.8250954 | 0.02 | 1.12E+03 | 6.61E-01 | 6.21E+05 | 3.66E-02 | 1178.015066 | 905.57 | 2.08E-05 | 7.84E-01 | 4.02E-01 | 3.15E-01 |
| 100 | 4,221,626.18 | 902.2708303 | 0.02 | 1.12E+03 | 6.59E-01 | 6.21E+05 | 3.66E-02 | 1176.903369 | 904.36 | 2.07E-05 | 7.85E-01 | 4.02E-01 | 3.16E-01 |

Table C.3: Mach = 1 and Turbine Inlet Temperature = 1700

# Appendix D

# APPENDIX D: MACH 1.5 CALCULATIONS

| Mach = 1.5 and Turbine Inlet Temperature = 1500 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 314.32 | | | | | | | | | | | | |
| Pt2 | 80,637.00 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=1.5 T=1500 | M=1.5 T=1500 | M=1.5 T=1500 | M=1.5 T=1500 | M=1.5 T=1500 |
| 1 | 80,637.00 | 314.3241053 | 0.03 | 1.50E+03 | 1.00E+00 | 8.06E+04 | 2.81E-01 | 951.5987329 | 683.84 | 4.13E-05 | 2.90E-01 | 8.21E-01 | 2.38E-01 |
| 2 | 161,273.99 | 379.0336431 | 0.03 | 1.44E+03 | 9.61E-01 | 1.35E+05 | 1.68E-01 | 1072.172531 | 806.12 | 3.30E-05 | 4.11E-01 | 7.23E-01 | 2.97E-01 |
| 3 | 241,910.99 | 422.8976318 | 0.03 | 1.40E+03 | 9.35E-01 | 1.79E+05 | 1.27E-01 | 1118.425938 | 852.41 | 3.00E-05 | 4.73E-01 | 6.93E-01 | 3.27E-01 |
| 4 | 322,547.98 | 457.0648583 | 0.02 | 1.37E+03 | 9.15E-01 | 2.16E+05 | 1.05E-01 | 1142.364516 | 876.01 | 2.82E-05 | 5.13E-01 | 6.78E-01 | 3.48E-01 |
| 5 | 403,184.98 | 485.4568224 | 0.02 | 1.35E+03 | 8.98E-01 | 2.48E+05 | 9.16E-02 | 1156.292015 | 889.48 | 2.70E-05 | 5.42E-01 | 6.70E-01 | 3.63E-01 |
| 6 | 483,821.97 | 509.9590753 | 0.02 | 1.32E+03 | 8.83E-01 | 2.76E+05 | 8.23E-02 | 1164.804136 | 897.50 | 2.61E-05 | 5.65E-01 | 6.65E-01 | 3.76E-01 |
| 7 | 564,458.97 | 531.6377909 | 0.02 | 1.30E+03 | 8.70E-01 | 3.01E+05 | 7.55E-02 | 1170.044066 | 902.25 | 2.54E-05 | 5.84E-01 | 6.62E-01 | 3.87E-01 |
| 8 | 645,095.96 | 551.160269 | 0.02 | 1.29E+03 | 8.58E-01 | 3.23E+05 | 7.02E-02 | 1173.156128 | 904.87 | 2.48E-05 | 6.00E-01 | 6.60E-01 | 3.96E-01 |
| 9 | 725,732.96 | 568.9745202 | 0.02 | 1.27E+03 | 8.47E-01 | 3.43E+05 | 6.61E-02 | 1174.810242 | 906.05 | 2.43E-05 | 6.14E-01 | 6.59E-01 | 4.04E-01 |
| 10 | 806,369.95 | 585.3972537 | 0.02 | 1.26E+03 | 8.37E-01 | 3.61E+05 | 6.28E-02 | 1175.425759 | 906.21 | 2.38E-05 | 6.25E-01 | 6.59E-01 | 4.12E-01 |
| 11 | 887,006.95 | 600.6614042 | 0.02 | 1.24E+03 | 8.28E-01 | 3.78E+05 | 6.01E-02 | 1175.27891 | 905.62 | 2.34E-05 | 6.36E-01 | 6.59E-01 | 4.19E-01 |
| 12 | 967,643.94 | 614.9437569 | 0.02 | 1.23E+03 | 8.20E-01 | 3.93E+05 | 5.78E-02 | 1174.559097 | 904.48 | 2.31E-05 | 6.45E-01 | 6.59E-01 | 4.25E-01 |
| 13 | 1,048,280.94 | 628.3819517 | 0.02 | 1.22E+03 | 8.12E-01 | 4.07E+05 | 5.58E-02 | 1173.400461 | 902.91 | 2.28E-05 | 6.54E-01 | 6.60E-01 | 4.31E-01 |
| 14 | 1,128,917.93 | 641.0854445 | 0.02 | 1.21E+03 | 8.04E-01 | 4.19E+05 | 5.42E-02 | 1171.900573 | 901.02 | 2.25E-05 | 6.62E-01 | 6.60E-01 | 4.37E-01 |
| 15 | 1,209,554.93 | 653.1428455 | 0.02 | 1.19E+03 | 7.97E-01 | 4.31E+05 | 5.27E-02 | 1170.132004 | 898.87 | 2.22E-05 | 6.69E-01 | 6.61E-01 | 4.42E-01 |
| 16 | 1,290,191.93 | 664.6269924 | 0.02 | 1.18E+03 | 7.90E-01 | 4.41E+05 | 5.15E-02 | 1168.14976 | 896.52 | 2.19E-05 | 6.75E-01 | 6.62E-01 | 4.47E-01 |
| 17 | 1,370,828.92 | 675.5985527 | 0.02 | 1.17E+03 | 7.83E-01 | 4.51E+05 | 5.04E-02 | 1165.996219 | 894.01 | 2.17E-05 | 6.82E-01 | 6.64E-01 | 4.52E-01 |
| 18 | 1,451,465.92 | 686.1086428 | 0.02 | 1.16E+03 | 7.77E-01 | 4.60E+05 | 4.94E-02 | 1163.704487 | 891.38 | 2.15E-05 | 6.87E-01 | 6.65E-01 | 4.57E-01 |
| 19 | 1,532,102.91 | 696.200771 | 0.02 | 1.16E+03 | 7.70E-01 | 4.68E+05 | 4.85E-02 | 1161.300745 | 888.64 | 2.13E-05 | 6.93E-01 | 6.66E-01 | 4.62E-01 |
| 20 | 1,612,739.91 | 705.9123053 | 0.02 | 1.15E+03 | 7.65E-01 | 4.75E+05 | 4.78E-02 | 1158.805921 | 885.83 | 2.11E-05 | 6.98E-01 | 6.68E-01 | 4.66E-01 |
| 21 | 1,693,376.90 | 715.2755993 | 0.02 | 1.14E+03 | 7.59E-01 | 4.82E+05 | 4.71E-02 | 1156.236901 | 882.94 | 2.09E-05 | 7.03E-01 | 6.69E-01 | 4.70E-01 |
| 22 | 1,774,013.90 | 724.3188687 | 0.02 | 1.13E+03 | 7.53E-01 | 4.88E+05 | 4.65E-02 | 1153.607426 | 880.01 | 2.07E-05 | 7.07E-01 | 6.71E-01 | 4.74E-01 |
| 23 | 1,854,650.89 | 733.0668823 | 0.02 | 1.12E+03 | 7.48E-01 | 4.94E+05 | 4.60E-02 | 1150.928757 | 877.04 | 2.05E-05 | 7.12E-01 | 6.72E-01 | 4.78E-01 |
| 24 | 1,935,287.89 | 741.5415127 | 0.02 | 1.11E+03 | 7.43E-01 | 4.99E+05 | 4.55E-02 | 1148.210185 | 874.03 | 2.04E-05 | 7.16E-01 | 6.74E-01 | 4.82E-01 |
| 25 | 2,015,924.88 | 749.7621801 | 0.02 | 1.11E+03 | 7.38E-01 | 5.04E+05 | 4.51E-02 | 1145.459419 | 871.00 | 2.02E-05 | 7.20E-01 | 6.75E-01 | 4.86E-01 |
| 26 | 2,096,561.88 | 757.7462131 | 0.02 | 1.10E+03 | 7.33E-01 | 5.08E+05 | 4.47E-02 | 1142.682889 | 867.96 | 2.01E-05 | 7.23E-01 | 6.77E-01 | 4.90E-01 |
| 27 | 2,177,198.87 | 765.5091452 | 0.02 | 1.09E+03 | 7.28E-01 | 5.12E+05 | 4.44E-02 | 1139.885983 | 864.90 | 1.99E-05 | 7.27E-01 | 6.79E-01 | 4.93E-01 |
| 28 | 2,257,835.87 | 773.0649592 | 0.02 | 1.09E+03 | 7.24E-01 | 5.15E+05 | 4.41E-02 | 1137.073231 | 861.82 | 1.98E-05 | 7.31E-01 | 6.80E-01 | 4.97E-01 |
| 29 | 2,338,472.86 | 780.4262915 | 0.02 | 1.08E+03 | 7.19E-01 | 5.18E+05 | 4.38E-02 | 1134.248459 | 858.75 | 1.96E-05 | 7.34E-01 | 6.82E-01 | 5.00E-01 |
| 30 | 2,419,109.86 | 787.6046034 | 0.02 | 1.07E+03 | 7.15E-01 | 5.21E+05 | 4.36E-02 | 1131.414904 | 855.67 | 1.95E-05 | 7.37E-01 | 6.84E-01 | 5.04E-01 |
| 31 | 2,499,746.86 | 794.6103249 | 0.02 | 1.07E+03 | 7.11E-01 | 5.23E+05 | 4.34E-02 | 1128.575314 | 852.59 | 1.94E-05 | 7.40E-01 | 6.85E-01 | 5.07E-01 |
| 32 | 2,580,383.85 | 801.4529782 | 0.02 | 1.06E+03 | 7.06E-01 | 5.26E+05 | 4.32E-02 | 1125.732026 | 849.51 | 1.92E-05 | 7.43E-01 | 6.87E-01 | 5.11E-01 |
| 33 | 2,661,020.85 | 808.1412819 | 0.02 | 1.05E+03 | 7.02E-01 | 5.28E+05 | 4.30E-02 | 1122.887028 | 846.44 | 1.91E-05 | 7.46E-01 | 6.89E-01 | 5.14E-01 |
| 34 | 2,741,657.84 | 814.6832408 | 0.02 | 1.05E+03 | 6.98E-01 | 5.29E+05 | 4.29E-02 | 1120.042018 | 843.37 | 1.90E-05 | 7.49E-01 | 6.91E-01 | 5.17E-01 |
| 35 | 2,822,294.84 | 821.0862239 | 0.02 | 1.04E+03 | 6.94E-01 | 5.30E+05 | 4.28E-02 | 1117.198443 | 840.30 | 1.89E-05 | 7.52E-01 | 6.92E-01 | 5.20E-01 |
| 36 | 2,902,931.83 | 827.3570309 | 0.02 | 1.04E+03 | 6.91E-01 | 5.32E+05 | 4.27E-02 | 1114.357539 | 837.25 | 1.88E-05 | 7.54E-01 | 6.94E-01 | 5.24E-01 |
| 37 | 2,983,568.83 | 833.501951 | 0.02 | 1.03E+03 | 6.87E-01 | 5.33E+05 | 4.26E-02 | 1111.520358 | 834.20 | 1.86E-05 | 7.57E-01 | 6.96E-01 | 5.27E-01 |
| 38 | 3,064,205.82 | 839.5268138 | 0.02 | 1.02E+03 | 6.83E-01 | 5.33E+05 | 4.26E-02 | 1108.687798 | 831.16 | 1.85E-05 | 7.59E-01 | 6.98E-01 | 5.30E-01 |
| 39 | 3,144,842.82 | 845.437034 | 0.02 | 1.02E+03 | 6.80E-01 | 5.34E+05 | 4.25E-02 | 1105.860623 | 828.13 | 1.84E-05 | 7.62E-01 | 7.00E-01 | 5.33E-01 |
| 40 | 3,225,479.81 | 851.2376504 | 0.02 | 1.01E+03 | 6.76E-01 | 5.34E+05 | 4.25E-02 | 1103.03948 | 825.11 | 1.83E-05 | 7.64E-01 | 7.01E-01 | 5.36E-01 |
| 41 | 3,306,116.81 | 856.9333614 | 0.01 | 1.01E+03 | 6.73E-01 | 5.34E+05 | 4.25E-02 | 1100.224918 | 822.10 | 1.82E-05 | 7.66E-01 | 7.03E-01 | 5.39E-01 |
| 42 | 3,386,753.80 | 862.5285549 | 0.01 | 1.00E+03 | 6.69E-01 | 5.34E+05 | 4.25E-02 | 1097.417397 | 819.10 | 1.81E-05 | 7.68E-01 | 7.05E-01 | 5.42E-01 |
| 43 | 3,467,390.80 | 868.027336 | 0.01 | 9.99E+02 | 6.66E-01 | 5.34E+05 | 4.25E-02 | 1094.617305 | 816.11 | 1.80E-05 | 7.71E-01 | 7.07E-01 | 5.45E-01 |
| 44 | 3,548,027.79 | 873.4335516 | 0.01 | 9.94E+02 | 6.62E-01 | 5.34E+05 | 4.25E-02 | 1091.824961 | 813.13 | 1.79E-05 | 7.73E-01 | 7.09E-01 | 5.48E-01 |
| 45 | 3,628,664.79 | 878.7508116 | 0.01 | 9.89E+02 | 6.59E-01 | 5.33E+05 | 4.26E-02 | 1089.040629 | 810.17 | 1.78E-05 | 7.75E-01 | 7.10E-01 | 5.51E-01 |
| 46 | 3,709,301.79 | 883.9825086 | 0.01 | 9.84E+02 | 6.56E-01 | 5.33E+05 | 4.26E-02 | 1086.264525 | 807.21 | 1.77E-05 | 7.77E-01 | 7.12E-01 | 5.53E-01 |
| 47 | 3,789,938.78 | 889.1318356 | 0.01 | 9.79E+02 | 6.53E-01 | 5.32E+05 | 4.27E-02 | 1083.496819 | 804.27 | 1.77E-05 | 7.79E-01 | 7.14E-01 | 5.56E-01 |
| 48 | 3,870,575.78 | 894.2018013 | 0.01 | 9.75E+02 | 6.50E-01 | 5.31E+05 | 4.27E-02 | 1080.737644 | 801.34 | 1.76E-05 | 7.81E-01 | 7.16E-01 | 5.59E-01 |
| 49 | 3,951,212.77 | 899.1952448 | 0.01 | 9.70E+02 | 6.47E-01 | 5.30E+05 | 4.28E-02 | 1077.9871 | 798.42 | 1.75E-05 | 7.83E-01 | 7.18E-01 | 5.62E-01 |
| 50 | 4,031,849.77 | 904.1148479 | 0.01 | 9.66E+02 | 6.44E-01 | 5.29E+05 | 4.29E-02 | 1075.245258 | 795.51 | 1.74E-05 | 7.85E-01 | 7.20E-01 | 5.65E-01 |
| 51 | 4,112,486.76 | 908.9631473 | 0.01 | 9.61E+02 | 6.41E-01 | 5.28E+05 | 4.30E-02 | 1072.512164 | 792.61 | 1.73E-05 | 7.86E-01 | 7.22E-01 | 5.68E-01 |
| 52 | 4,193,123.76 | 913.7425446 | 0.01 | 9.57E+02 | 6.38E-01 | 5.26E+05 | 4.31E-02 | 1069.787841 | 789.72 | 1.72E-05 | 7.88E-01 | 7.24E-01 | 5.70E-01 |
| 53 | 4,273,760.75 | 918.4553163 | 0.01 | 9.52E+02 | 6.35E-01 | 5.25E+05 | 4.32E-02 | 1067.072294 | 786.85 | 1.71E-05 | 7.90E-01 | 7.25E-01 | 5.73E-01 |
| 54 | 4,354,397.75 | 923.1036224 | 0.01 | 9.48E+02 | 6.32E-01 | 5.23E+05 | 4.34E-02 | 1064.365508 | 783.98 | 1.71E-05 | 7.92E-01 | 7.27E-01 | 5.76E-01 |
| 55 | 4,435,034.74 | 927.6895146 | 0.01 | 9.44E+02 | 6.29E-01 | 5.22E+05 | 4.35E-02 | 1061.667456 | 781.13 | 1.70E-05 | 7.93E-01 | 7.29E-01 | 5.79E-01 |
| 56 | 4,515,671.74 | 932.2149431 | 0.01 | 9.40E+02 | 6.26E-01 | 5.20E+05 | 4.36E-02 | 1058.978097 | 778.29 | 1.69E-05 | 7.95E-01 | 7.31E-01 | 5.81E-01 |
| 57 | 4,596,308.73 | 936.6817638 | 0.01 | 9.36E+02 | 6.24E-01 | 5.18E+05 | 4.38E-02 | 1056.297378 | 775.46 | 1.68E-05 | 7.97E-01 | 7.33E-01 | 5.84E-01 |
| 58 | 4,676,945.73 | 941.0917443 | 0.01 | 9.32E+02 | 6.21E-01 | 5.17E+05 | 4.39E-02 | 1053.625237 | 772.64 | 1.67E-05 | 7.98E-01 | 7.35E-01 | 5.87E-01 |
| 59 | 4,757,582.72 | 945.4465695 | 0.01 | 9.28E+02 | 6.18E-01 | 5.15E+05 | 4.41E-02 | 1050.961602 | 769.83 | 1.67E-05 | 8.00E-01 | 7.37E-01 | 5.89E-01 |
| 60 | 4,838,219.72 | 949.7478468 | 0.01 | 9.24E+02 | 6.16E-01 | 5.13E+05 | 4.43E-02 | 1048.306395 | 767.03 | 1.66E-05 | 8.02E-01 | 7.39E-01 | 5.92E-01 |
| 61 | 4,918,856.72 | 953.9971109 | 0.01 | 9.20E+02 | 6.13E-01 | 5.11E+05 | 4.44E-02 | 1045.659531 | 764.24 | 1.65E-05 | 8.03E-01 | 7.41E-01 | 5.95E-01 |
| 62 | 4,999,493.71 | 958.1958281 | 0.01 | 9.16E+02 | 6.11E-01 | 5.09E+05 | 4.46E-02 | 1043.020917 | 761.46 | 1.64E-05 | 8.05E-01 | 7.43E-01 | 5.98E-01 |
| 63 | 5,080,130.71 | 962.3454007 | 0.01 | 9.12E+02 | 6.08E-01 | 5.07E+05 | 4.48E-02 | 1040.39046 | 758.69 | 1.64E-05 | 8.06E-01 | 7.45E-01 | 6.00E-01 |
| 64 | 5,160,767.70 | 966.4471705 | 0.01 | 9.08E+02 | 6.05E-01 | 5.04E+05 | 4.50E-02 | 1037.768057 | 755.93 | 1.63E-05 | 8.08E-01 | 7.47E-01 | 6.03E-01 |
| 65 | 5,241,404.70 | 970.5024223 | 0.01 | 9.04E+02 | 6.03E-01 | 5.02E+05 | 4.52E-02 | 1035.153606 | 753.18 | 1.62E-05 | 8.09E-01 | 7.49E-01 | 6.06E-01 |
| 66 | 5,322,041.69 | 974.5123874 | 0.01 | 9.01E+02 | 6.00E-01 | 5.00E+05 | 4.54E-02 | 1032.547 | 750.44 | 1.61E-05 | 8.10E-01 | 7.50E-01 | 6.08E-01 |
| 67 | 5,402,678.69 | 978.4782464 | 0.01 | 8.97E+02 | 5.98E-01 | 4.98E+05 | 4.56E-02 | 1029.94813 | 747.71 | 1.61E-05 | 8.12E-01 | 7.52E-01 | 6.11E-01 |
| 68 | 5,483,315.68 | 982.4011319 | 0.01 | 8.93E+02 | 5.96E-01 | 4.95E+05 | 4.58E-02 | 1027.356884 | 744.99 | 1.60E-05 | 8.13E-01 | 7.54E-01 | 6.14E-01 |
| 69 | 5,563,952.68 | 986.2821314 | 0.01 | 8.90E+02 | 5.93E-01 | 4.93E+05 | 4.60E-02 | 1024.773149 | 742.28 | 1.59E-05 | 8.15E-01 | 7.56E-01 | 6.16E-01 |
| 70 | 5,644,589.67 | 990.1222896 | 0.01 | 8.86E+02 | 5.91E-01 | 4.90E+05 | 4.63E-02 | 1022.196811 | 739.58 | 1.59E-05 | 8.16E-01 | 7.58E-01 | 6.19E-01 |
| 71 | 5,725,226.67 | 993.9226107 | 0.01 | 8.83E+02 | 5.89E-01 | 4.88E+05 | 4.65E-02 | 1019.627753 | 736.89 | 1.58E-05 | 8.17E-01 | 7.60E-01 | 6.22E-01 |
| 72 | 5,805,863.66 | 997.6840604 | 0.01 | 8.79E+02 | 5.86E-01 | 4.85E+05 | 4.67E-02 | 1017.065861 | 734.20 | 1.57E-05 | 8.19E-01 | 7.62E-01 | 6.24E-01 |
| 73 | 5,886,500.66 | 1001.407568 | 0.01 | 8.76E+02 | 5.84E-01 | 4.83E+05 | 4.70E-02 | 1014.511016 | 731.52 | 1.57E-05 | 8.20E-01 | 7.64E-01 | 6.27E-01 |
| 74 | 5,967,137.65 | 1005.094028 | 0.01 | 8.73E+02 | 5.82E-01 | 4.80E+05 | 4.72E-02 | 1011.963101 | 728.86 | 1.56E-05 | 8.21E-01 | 7.67E-01 | 6.30E-01 |
| 75 | 6,047,774.65 | 1008.744303 | 0.01 | 8.69E+02 | 5.79E-01 | 4.78E+05 | 4.75E-02 | 1009.421999 | 726.20 | 1.55E-05 | 8.23E-01 | 7.69E-01 | 6.32E-01 |
| 76 | 6,128,411.65 | 1012.359222 | 0.01 | 8.66E+02 | 5.77E-01 | 4.75E+05 | 4.78E-02 | 1006.887591 | 723.54 | 1.55E-05 | 8.24E-01 | 7.71E-01 | 6.35E-01 |
| 77 | 6,209,048.64 | 1015.939588 | 0.01 | 8.62E+02 | 5.75E-01 | 4.73E+05 | 4.80E-02 | 1004.359761 | 720.90 | 1.54E-05 | 8.25E-01 | 7.73E-01 | 6.37E-01 |
| 78 | 6,289,685.64 | 1019.486173 | 0.01 | 8.59E+02 | 5.73E-01 | 4.70E+05 | 4.83E-02 | 1001.83839 | 718.26 | 1.53E-05 | 8.26E-01 | 7.75E-01 | 6.40E-01 |
| 79 | 6,370,322.63 | 1022.999722 | 0.01 | 8.56E+02 | 5.71E-01 | 4.67E+05 | 4.86E-02 | 999.3233627 | 715.64 | 1.53E-05 | 8.28E-01 | 7.77E-01 | 6.43E-01 |
| 80 | 6,450,959.63 | 1026.480955 | 0.01 | 8.53E+02 | 5.69E-01 | 4.64E+05 | 4.89E-02 | 996.8145614 | 713.02 | 1.52E-05 | 8.29E-01 | 7.79E-01 | 6.45E-01 |
| 81 | 6,531,596.62 | 1029.930569 | 0.01 | 8.50E+02 | 5.66E-01 | 4.62E+05 | 4.92E-02 | 994.3118702 | 710.40 | 1.52E-05 | 8.30E-01 | 7.81E-01 | 6.48E-01 |
| 82 | 6,612,233.62 | 1033.349236 | 0.01 | 8.46E+02 | 5.64E-01 | 4.59E+05 | 4.95E-02 | 991.8151737 | 707.80 | 1.51E-05 | 8.31E-01 | 7.83E-01 | 6.51E-01 |
| 83 | 6,692,870.61 | 1036.737605 | 0.01 | 8.43E+02 | 5.62E-01 | 4.56E+05 | 4.98E-02 | 989.3243571 | 705.20 | 1.50E-05 | 8.32E-01 | 7.85E-01 | 6.53E-01 |
| 84 | 6,773,507.61 | 1040.096305 | 0.01 | 8.40E+02 | 5.60E-01 | 4.53E+05 | 5.01E-02 | 986.8393062 | 702.60 | 1.50E-05 | 8.33E-01 | 7.87E-01 | 6.56E-01 |
| 85 | 6,854,144.60 | 1043.425945 | 0.01 | 8.37E+02 | 5.58E-01 | 4.51E+05 | 5.04E-02 | 984.3599078 | 700.02 | 1.49E-05 | 8.35E-01 | 7.89E-01 | 6.59E-01 |
| 86 | 6,934,781.60 | 1046.727114 | 0.01 | 8.34E+02 | 5.56E-01 | 4.48E+05 | 5.07E-02 | 981.8860491 | 697.44 | 1.48E-05 | 8.36E-01 | 7.92E-01 | 6.61E-01 |
| 87 | 7,015,418.59 | 1050.000382 | 0.01 | 8.31E+02 | 5.54E-01 | 4.45E+05 | 5.10E-02 | 979.4176186 | 694.87 | 1.48E-05 | 8.37E-01 | 7.94E-01 | 6.64E-01 |
| 88 | 7,096,055.59 | 1053.246301 | 0.01 | 8.28E+02 | 5.52E-01 | 4.42E+05 | 5.13E-02 | 976.9545052 | 692.30 | 1.47E-05 | 8.38E-01 | 7.96E-01 | 6.67E-01 |
| 89 | 7,176,692.58 | 1056.465407 | 0.01 | 8.25E+02 | 5.50E-01 | 4.39E+05 | 5.17E-02 | 974.496599 | 689.74 | 1.47E-05 | 8.39E-01 | 7.98E-01 | 6.70E-01 |
| 90 | 7,257,329.58 | 1059.658219 | 0.01 | 8.22E+02 | 5.48E-01 | 4.36E+05 | 5.20E-02 | 972.0437909 | 687.19 | 1.46E-05 | 8.40E-01 | 8.00E-01 | 6.72E-01 |
| 91 | 7,337,966.58 | 1062.82524 | 0.01 | 8.19E+02 | 5.46E-01 | 4.34E+05 | 5.24E-02 | 969.5959726 | 684.64 | 1.45E-05 | 8.41E-01 | 8.02E-01 | 6.75E-01 |
| 92 | 7,418,603.57 | 1065.966959 | 0.01 | 8.16E+02 | 5.44E-01 | 4.31E+05 | 5.27E-02 | 967.1530369 | 682.10 | 1.45E-05 | 8.42E-01 | 8.05E-01 | 6.78E-01 |
| 93 | 7,499,240.57 | 1069.08385 | 0.01 | 8.13E+02 | 5.42E-01 | 4.28E+05 | 5.31E-02 | 964.7148773 | 679.56 | 1.44E-05 | 8.43E-01 | 8.07E-01 | 6.80E-01 |
| 94 | 7,579,877.56 | 1072.176372 | 0.01 | 8.10E+02 | 5.40E-01 | 4.25E+05 | 5.34E-02 | 962.2813885 | 677.03 | 1.44E-05 | 8.44E-01 | 8.09E-01 | 6.83E-01 |
| 95 | 7,660,514.56 | 1075.244973 | 0.01 | 8.08E+02 | 5.38E-01 | 4.22E+05 | 5.38E-02 | 959.8524659 | 674.51 | 1.43E-05 | 8.45E-01 | 8.11E-01 | 6.86E-01 |
| 96 | 7,741,151.55 | 1078.290086 | 0.01 | 8.05E+02 | 5.37E-01 | 4.19E+05 | 5.41E-02 | 957.4280059 | 671.99 | 1.43E-05 | 8.46E-01 | 8.13E-01 | 6.89E-01 |
| 97 | 7,821,788.55 | 1081.312133 | 0.01 | 8.02E+02 | 5.35E-01 | 4.16E+05 | 5.45E-02 | 955.0079058 | 669.48 | 1.42E-05 | 8.48E-01 | 8.16E-01 | 6.91E-01 |
| 98 | 7,902,425.54 | 1084.311524 | 0.01 | 7.99E+02 | 5.33E-01 | 4.13E+05 | 5.49E-02 | 952.5920639 | 666.97 | 1.41E-05 | 8.49E-01 | 8.18E-01 | 6.94E-01 |
| 99 | 7,983,062.54 | 1087.288657 | 0.01 | 7.96E+02 | 5.31E-01 | 4.10E+05 | 5.53E-02 | 950.1803793 | 664.47 | 1.41E-05 | 8.50E-01 | 8.20E-01 | 6.97E-01 |
| 100 | 8,063,699.53 | 1090.24392 | 0.01 | 7.94E+02 | 5.29E-01 | 4.08E+05 | 5.57E-02 | 947.772752 | 661.97 | 1.40E-05 | 8.51E-01 | 8.23E-01 | 7.00E-01 |

Table D.1: Mach = 1.5 and Turbine Inlet Temperature = 1500

| Mach = 1.5 and Turbine Inlet Temperature = 1600 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 314.32 | | | | | | | | | | | | |
| Pt2 | 80,637.00 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=1.5 T=1600 | M=1.5 T=1600 | M=1.5 T=1600 | M=1.5 T=1600 | M=1.5 T=1600 |
| 1 | 80,637.00 | 314.3241053 | 0.03 | 1.60E+03 | 1.00E+00 | 8.06E+04 | 2.81E-01 | 982.8069453 | 718.35 | 4.27E-05 | 2.90E-01 | 7.93E-01 | 2.30E-01 |
| 2 | 161,273.99 | 379.0336431 | 0.03 | 1.54E+03 | 9.64E-01 | 1.37E+05 | 1.66E-01 | 1111.604314 | 849.34 | 3.43E-05 | 4.11E-01 | 6.97E-01 | 2.87E-01 |
| 3 | 241,910.99 | 422.8976318 | 0.03 | 1.50E+03 | 9.39E-01 | 1.83E+05 | 1.24E-01 | 1161.932843 | 899.89 | 3.12E-05 | 4.73E-01 | 6.67E-01 | 3.15E-01 |
| 4 | 322,547.98 | 457.0648583 | 0.03 | 1.47E+03 | 9.20E-01 | 2.22E+05 | 1.02E-01 | 1188.587143 | 926.30 | 2.94E-05 | 5.13E-01 | 6.52E-01 | 3.34E-01 |
| 5 | 403,184.98 | 485.4568224 | 0.03 | 1.45E+03 | 9.04E-01 | 2.56E+05 | 8.86E-02 | 1204.563705 | 941.88 | 2.81E-05 | 5.43E-01 | 6.43E-01 | 3.49E-01 |
| 6 | 483,821.97 | 509.9590753 | 0.03 | 1.42E+03 | 8.91E-01 | 2.87E+05 | 7.91E-02 | 1214.731916 | 951.59 | 2.72E-05 | 5.66E-01 | 6.38E-01 | 3.61E-01 |
| 7 | 564,458.97 | 531.6377909 | 0.03 | 1.41E+03 | 8.78E-01 | 3.14E+05 | 7.22E-02 | 1221.36992 | 957.75 | 2.65E-05 | 5.84E-01 | 6.34E-01 | 3.71E-01 |
| 8 | 645,095.96 | 551.160269 | 0.02 | 1.39E+03 | 8.67E-01 | 3.39E+05 | 6.69E-02 | 1225.698135 | 961.60 | 2.59E-05 | 6.00E-01 | 6.32E-01 | 3.79E-01 |
| 9 | 725,732.96 | 568.9745202 | 0.02 | 1.37E+03 | 8.57E-01 | 3.62E+05 | 6.27E-02 | 1228.433463 | 963.87 | 2.54E-05 | 6.14E-01 | 6.31E-01 | 3.87E-01 |
| 10 | 806,369.95 | 585.3972537 | 0.02 | 1.36E+03 | 8.48E-01 | 3.83E+05 | 5.93E-02 | 1230.026244 | 965.01 | 2.49E-05 | 6.25E-01 | 6.30E-01 | 3.94E-01 |
| 11 | 887,006.95 | 600.6614042 | 0.02 | 1.34E+03 | 8.39E-01 | 4.02E+05 | 5.65E-02 | 1230.77419 | 965.31 | 2.45E-05 | 6.36E-01 | 6.29E-01 | 4.00E-01 |
| 12 | 967,643.94 | 614.9437569 | 0.02 | 1.33E+03 | 8.31E-01 | 4.19E+05 | 5.41E-02 | 1230.882194 | 964.99 | 2.42E-05 | 6.45E-01 | 6.29E-01 | 4.06E-01 |
| 13 | 1,048,280.94 | 628.3819517 | 0.02 | 1.32E+03 | 8.24E-01 | 4.35E+05 | 5.21E-02 | 1230.49593 | 964.19 | 2.39E-05 | 6.54E-01 | 6.30E-01 | 4.12E-01 |
| 14 | 1,128,917.93 | 641.0854445 | 0.02 | 1.31E+03 | 8.17E-01 | 4.50E+05 | 5.04E-02 | 1229.721781 | 963.02 | 2.36E-05 | 6.61E-01 | 6.30E-01 | 4.17E-01 |
| 15 | 1,209,554.93 | 653.1428455 | 0.02 | 1.30E+03 | 8.10E-01 | 4.64E+05 | 4.89E-02 | 1228.639202 | 961.55 | 2.33E-05 | 6.69E-01 | 6.30E-01 | 4.22E-01 |
| 16 | 1,290,191.93 | 664.6269924 | 0.02 | 1.29E+03 | 8.03E-01 | 4.77E+05 | 4.76E-02 | 1227.308679 | 959.85 | 2.30E-05 | 6.75E-01 | 6.31E-01 | 4.26E-01 |
| 17 | 1,370,828.92 | 675.5985527 | 0.02 | 1.28E+03 | 7.97E-01 | 4.89E+05 | 4.64E-02 | 1225.77702 | 957.95 | 2.28E-05 | 6.81E-01 | 6.32E-01 | 4.30E-01 |
| 18 | 1,451,465.92 | 686.1086428 | 0.02 | 1.27E+03 | 7.91E-01 | 5.00E+05 | 4.54E-02 | 1224.080969 | 955.90 | 2.26E-05 | 6.87E-01 | 6.33E-01 | 4.35E-01 |
| 19 | 1,532,102.91 | 696.200771 | 0.02 | 1.26E+03 | 7.85E-01 | 5.11E+05 | 4.44E-02 | 1222.249725 | 953.73 | 2.24E-05 | 6.92E-01 | 6.34E-01 | 4.39E-01 |
| 20 | 1,612,739.91 | 705.9123053 | 0.02 | 1.25E+03 | 7.80E-01 | 5.21E+05 | 4.36E-02 | 1220.306751 | 951.46 | 2.22E-05 | 6.97E-01 | 6.35E-01 | 4.43E-01 |
| 21 | 1,693,376.90 | 715.2755993 | 0.02 | 1.24E+03 | 7.74E-01 | 5.30E+05 | 4.29E-02 | 1218.271084 | 949.10 | 2.20E-05 | 7.02E-01 | 6.36E-01 | 4.46E-01 |
| 22 | 1,774,013.90 | 724.3188687 | 0.02 | 1.23E+03 | 7.69E-01 | 5.38E+05 | 4.22E-02 | 1216.1583 | 946.67 | 2.18E-05 | 7.07E-01 | 6.37E-01 | 4.50E-01 |
| 23 | 1,854,650.89 | 733.0668823 | 0.02 | 1.22E+03 | 7.64E-01 | 5.46E+05 | 4.16E-02 | 1213.981247 | 944.19 | 2.17E-05 | 7.11E-01 | 6.38E-01 | 4.53E-01 |
| 24 | 1,935,287.89 | 741.5415127 | 0.02 | 1.22E+03 | 7.60E-01 | 5.53E+05 | 4.10E-02 | 1211.75059 | 941.66 | 2.15E-05 | 7.15E-01 | 6.39E-01 | 4.57E-01 |
| 25 | 2,015,924.88 | 749.7621801 | 0.02 | 1.21E+03 | 7.55E-01 | 5.60E+05 | 4.05E-02 | 1209.475241 | 939.10 | 2.13E-05 | 7.19E-01 | 6.40E-01 | 4.60E-01 |
| 26 | 2,096,561.88 | 757.7462131 | 0.02 | 1.20E+03 | 7.50E-01 | 5.66E+05 | 4.01E-02 | 1207.162687 | 936.51 | 2.12E-05 | 7.23E-01 | 6.41E-01 | 4.63E-01 |
| 27 | 2,177,198.87 | 765.5091452 | 0.02 | 1.19E+03 | 7.46E-01 | 5.72E+05 | 3.97E-02 | 1204.819251 | 933.89 | 2.10E-05 | 7.26E-01 | 6.42E-01 | 4.67E-01 |
| 28 | 2,257,835.87 | 773.0649592 | 0.02 | 1.19E+03 | 7.42E-01 | 5.77E+05 | 3.93E-02 | 1202.450293 | 931.25 | 2.09E-05 | 7.30E-01 | 6.44E-01 | 4.70E-01 |
| 29 | 2,338,472.86 | 780.4262915 | 0.02 | 1.18E+03 | 7.37E-01 | 5.82E+05 | 3.90E-02 | 1200.060379 | 928.60 | 2.08E-05 | 7.33E-01 | 6.45E-01 | 4.73E-01 |
| 30 | 2,419,109.86 | 787.6046034 | 0.02 | 1.17E+03 | 7.33E-01 | 5.87E+05 | 3.87E-02 | 1197.653412 | 925.93 | 2.06E-05 | 7.36E-01 | 6.46E-01 | 4.76E-01 |
| 31 | 2,499,746.86 | 794.6103249 | 0.02 | 1.17E+03 | 7.29E-01 | 5.91E+05 | 3.84E-02 | 1195.232737 | 923.26 | 2.05E-05 | 7.39E-01 | 6.47E-01 | 4.79E-01 |
| 32 | 2,580,383.85 | 801.4529782 | 0.02 | 1.16E+03 | 7.25E-01 | 5.95E+05 | 3.81E-02 | 1192.80123 | 920.58 | 2.04E-05 | 7.42E-01 | 6.49E-01 | 4.82E-01 |
| 33 | 2,661,020.85 | 808.1412819 | 0.02 | 1.15E+03 | 7.22E-01 | 5.99E+05 | 3.79E-02 | 1190.361373 | 917.90 | 2.03E-05 | 7.45E-01 | 6.50E-01 | 4.84E-01 |
| 34 | 2,741,657.84 | 814.6832408 | 0.02 | 1.15E+03 | 7.18E-01 | 6.02E+05 | 3.77E-02 | 1187.915307 | 915.22 | 2.02E-05 | 7.48E-01 | 6.51E-01 | 4.87E-01 |
| 35 | 2,822,294.84 | 821.0862239 | 0.02 | 1.14E+03 | 7.14E-01 | 6.05E+05 | 3.75E-02 | 1185.464887 | 912.54 | 2.00E-05 | 7.50E-01 | 6.53E-01 | 4.90E-01 |
| 36 | 2,902,931.83 | 827.3570309 | 0.02 | 1.14E+03 | 7.11E-01 | 6.08E+05 | 3.73E-02 | 1183.011721 | 909.86 | 1.99E-05 | 7.53E-01 | 6.54E-01 | 4.93E-01 |
| 37 | 2,983,568.83 | 833.501951 | 0.02 | 1.13E+03 | 7.07E-01 | 6.11E+05 | 3.72E-02 | 1180.557203 | 907.18 | 1.98E-05 | 7.56E-01 | 6.55E-01 | 4.95E-01 |
| 38 | 3,064,205.82 | 839.5268138 | 0.02 | 1.13E+03 | 7.04E-01 | 6.13E+05 | 3.70E-02 | 1178.102547 | 904.51 | 1.97E-05 | 7.58E-01 | 6.57E-01 | 4.98E-01 |
| 39 | 3,144,842.82 | 845.437034 | 0.02 | 1.12E+03 | 7.00E-01 | 6.15E+05 | 3.69E-02 | 1175.648806 | 901.84 | 1.96E-05 | 7.60E-01 | 6.58E-01 | 5.00E-01 |
| 40 | 3,225,479.81 | 851.2376504 | 0.02 | 1.12E+03 | 6.97E-01 | 6.17E+05 | 3.68E-02 | 1173.196896 | 899.18 | 1.95E-05 | 7.63E-01 | 6.59E-01 | 5.03E-01 |
| 41 | 3,306,116.81 | 856.9333614 | 0.02 | 1.11E+03 | 6.94E-01 | 6.19E+05 | 3.67E-02 | 1170.747615 | 896.53 | 1.94E-05 | 7.65E-01 | 6.61E-01 | 5.05E-01 |
| 42 | 3,386,753.80 | 862.5285549 | 0.02 | 1.10E+03 | 6.91E-01 | 6.20E+05 | 3.66E-02 | 1168.301655 | 893.88 | 1.93E-05 | 7.67E-01 | 6.62E-01 | 5.08E-01 |
| 43 | 3,467,390.80 | 868.027336 | 0.02 | 1.10E+03 | 6.87E-01 | 6.21E+05 | 3.65E-02 | 1165.859617 | 891.24 | 1.92E-05 | 7.69E-01 | 6.63E-01 | 5.10E-01 |
| 44 | 3,548,027.79 | 873.4335516 | 0.02 | 1.09E+03 | 6.84E-01 | 6.22E+05 | 3.65E-02 | 1163.422025 | 888.61 | 1.91E-05 | 7.71E-01 | 6.65E-01 | 5.13E-01 |
| 45 | 3,628,664.79 | 878.7508116 | 0.02 | 1.09E+03 | 6.81E-01 | 6.23E+05 | 3.64E-02 | 1160.989328 | 885.98 | 1.91E-05 | 7.73E-01 | 6.66E-01 | 5.15E-01 |
| 46 | 3,709,301.79 | 883.9825086 | 0.02 | 1.09E+03 | 6.78E-01 | 6.24E+05 | 3.64E-02 | 1158.561917 | 883.36 | 1.90E-05 | 7.75E-01 | 6.68E-01 | 5.18E-01 |
| 47 | 3,789,938.78 | 889.1318356 | 0.02 | 1.08E+03 | 6.75E-01 | 6.24E+05 | 3.63E-02 | 1156.140129 | 880.76 | 1.89E-05 | 7.77E-01 | 6.69E-01 | 5.20E-01 |
| 48 | 3,870,575.78 | 894.2018013 | 0.02 | 1.08E+03 | 6.72E-01 | 6.25E+05 | 3.63E-02 | 1153.724251 | 878.16 | 1.88E-05 | 7.79E-01 | 6.70E-01 | 5.22E-01 |
| 49 | 3,951,212.77 | 899.1952448 | 0.02 | 1.07E+03 | 6.70E-01 | 6.25E+05 | 3.63E-02 | 1151.314528 | 875.57 | 1.87E-05 | 7.81E-01 | 6.72E-01 | 5.25E-01 |
| 50 | 4,031,849.77 | 904.1148479 | 0.02 | 1.07E+03 | 6.67E-01 | 6.25E+05 | 3.63E-02 | 1148.91117 | 872.99 | 1.86E-05 | 7.83E-01 | 6.73E-01 | 5.27E-01 |
| 51 | 4,112,486.76 | 908.9631473 | 0.02 | 1.06E+03 | 6.64E-01 | 6.25E+05 | 3.63E-02 | 1146.514351 | 870.41 | 1.86E-05 | 7.85E-01 | 6.75E-01 | 5.29E-01 |
| 52 | 4,193,123.76 | 913.7425446 | 0.02 | 1.06E+03 | 6.61E-01 | 6.25E+05 | 3.63E-02 | 1144.124217 | 867.85 | 1.85E-05 | 7.87E-01 | 6.76E-01 | 5.32E-01 |
| 53 | 4,273,760.75 | 918.4553163 | 0.02 | 1.05E+03 | 6.59E-01 | 6.25E+05 | 3.63E-02 | 1141.740889 | 865.30 | 1.84E-05 | 7.88E-01 | 6.77E-01 | 5.34E-01 |
| 54 | 4,354,397.75 | 923.1036224 | 0.02 | 1.05E+03 | 6.56E-01 | 6.25E+05 | 3.63E-02 | 1139.364463 | 862.75 | 1.83E-05 | 7.90E-01 | 6.79E-01 | 5.36E-01 |
| 55 | 4,435,034.74 | 927.6895146 | 0.02 | 1.05E+03 | 6.53E-01 | 6.24E+05 | 3.64E-02 | 1136.995015 | 860.22 | 1.82E-05 | 7.92E-01 | 6.80E-01 | 5.38E-01 |
| 56 | 4,515,671.74 | 932.2149431 | 0.02 | 1.04E+03 | 6.51E-01 | 6.23E+05 | 3.64E-02 | 1134.632604 | 857.70 | 1.82E-05 | 7.93E-01 | 6.82E-01 | 5.41E-01 |
| 57 | 4,596,308.73 | 936.6817638 | 0.02 | 1.04E+03 | 6.48E-01 | 6.23E+05 | 3.64E-02 | 1132.277272 | 855.18 | 1.81E-05 | 7.95E-01 | 6.83E-01 | 5.43E-01 |
| 58 | 4,676,945.73 | 941.0917443 | 0.02 | 1.03E+03 | 6.46E-01 | 6.22E+05 | 3.65E-02 | 1129.929045 | 852.67 | 1.80E-05 | 7.96E-01 | 6.84E-01 | 5.45E-01 |
| 59 | 4,757,582.72 | 945.4465695 | 0.02 | 1.03E+03 | 6.43E-01 | 6.21E+05 | 3.65E-02 | 1127.587939 | 850.18 | 1.79E-05 | 7.98E-01 | 6.86E-01 | 5.47E-01 |
| 60 | 4,838,219.72 | 949.7478468 | 0.02 | 1.02E+03 | 6.41E-01 | 6.20E+05 | 3.66E-02 | 1125.253957 | 847.69 | 1.79E-05 | 8.00E-01 | 6.87E-01 | 5.50E-01 |
| 61 | 4,918,856.72 | 953.9971109 | 0.02 | 1.02E+03 | 6.38E-01 | 6.19E+05 | 3.67E-02 | 1122.927091 | 845.21 | 1.78E-05 | 8.01E-01 | 6.89E-01 | 5.52E-01 |
| 62 | 4,999,493.71 | 958.1958281 | 0.01 | 1.02E+03 | 6.36E-01 | 6.18E+05 | 3.67E-02 | 1120.607326 | 842.74 | 1.77E-05 | 8.02E-01 | 6.90E-01 | 5.54E-01 |
| 63 | 5,080,130.71 | 962.3454007 | 0.01 | 1.01E+03 | 6.33E-01 | 6.17E+05 | 3.68E-02 | 1118.294638 | 840.28 | 1.77E-05 | 8.04E-01 | 6.92E-01 | 5.56E-01 |
| 64 | 5,160,767.70 | 966.4471705 | 0.01 | 1.01E+03 | 6.31E-01 | 6.15E+05 | 3.69E-02 | 1115.988996 | 837.83 | 1.76E-05 | 8.05E-01 | 6.93E-01 | 5.58E-01 |
| 65 | 5,241,404.70 | 970.5024223 | 0.01 | 1.01E+03 | 6.29E-01 | 6.14E+05 | 3.70E-02 | 1113.690362 | 835.38 | 1.75E-05 | 8.07E-01 | 6.94E-01 | 5.60E-01 |
| 66 | 5,322,041.69 | 974.5123874 | 0.01 | 1.00E+03 | 6.26E-01 | 6.13E+05 | 3.71E-02 | 1111.398693 | 832.95 | 1.75E-05 | 8.08E-01 | 6.96E-01 | 5.62E-01 |
| 67 | 5,402,678.69 | 978.4782464 | 0.01 | 9.99E+02 | 6.24E-01 | 6.11E+05 | 3.71E-02 | 1109.113941 | 830.52 | 1.74E-05 | 8.10E-01 | 6.97E-01 | 5.65E-01 |
| 68 | 5,483,315.68 | 982.4011319 | 0.01 | 9.95E+02 | 6.22E-01 | 6.10E+05 | 3.72E-02 | 1106.836055 | 828.11 | 1.73E-05 | 8.11E-01 | 6.99E-01 | 5.67E-01 |
| 69 | 5,563,952.68 | 986.2821314 | 0.01 | 9.91E+02 | 6.20E-01 | 6.08E+05 | 3.73E-02 | 1104.564977 | 825.70 | 1.73E-05 | 8.12E-01 | 7.00E-01 | 5.69E-01 |
| 70 | 5,644,589.67 | 990.1222896 | 0.01 | 9.88E+02 | 6.17E-01 | 6.06E+05 | 3.74E-02 | 1102.300648 | 823.30 | 1.72E-05 | 8.14E-01 | 7.02E-01 | 5.71E-01 |
| 71 | 5,725,226.67 | 993.9226107 | 0.01 | 9.84E+02 | 6.15E-01 | 6.04E+05 | 3.76E-02 | 1100.043006 | 820.91 | 1.71E-05 | 8.15E-01 | 7.03E-01 | 5.73E-01 |
| 72 | 5,805,863.66 | 997.6840604 | 0.01 | 9.81E+02 | 6.13E-01 | 6.03E+05 | 3.77E-02 | 1097.791986 | 818.52 | 1.71E-05 | 8.16E-01 | 7.05E-01 | 5.75E-01 |
| 73 | 5,886,500.66 | 1001.407568 | 0.01 | 9.77E+02 | 6.11E-01 | 6.01E+05 | 3.78E-02 | 1095.54752 | 816.15 | 1.70E-05 | 8.17E-01 | 7.06E-01 | 5.77E-01 |
| 74 | 5,967,137.65 | 1005.094028 | 0.01 | 9.74E+02 | 6.09E-01 | 5.99E+05 | 3.79E-02 | 1093.30954 | 813.78 | 1.70E-05 | 8.19E-01 | 7.08E-01 | 5.79E-01 |
| 75 | 6,047,774.65 | 1008.744303 | 0.01 | 9.71E+02 | 6.07E-01 | 5.97E+05 | 3.80E-02 | 1091.077973 | 811.42 | 1.69E-05 | 8.20E-01 | 7.09E-01 | 5.81E-01 |
| 76 | 6,128,411.65 | 1012.359222 | 0.01 | 9.67E+02 | 6.05E-01 | 5.95E+05 | 3.82E-02 | 1088.852748 | 809.07 | 1.68E-05 | 8.21E-01 | 7.11E-01 | 5.83E-01 |
| 77 | 6,209,048.64 | 1015.939588 | 0.01 | 9.64E+02 | 6.03E-01 | 5.93E+05 | 3.83E-02 | 1086.633791 | 806.72 | 1.68E-05 | 8.22E-01 | 7.12E-01 | 5.86E-01 |
| 78 | 6,289,685.64 | 1019.486173 | 0.01 | 9.61E+02 | 6.00E-01 | 5.91E+05 | 3.84E-02 | 1084.421027 | 804.39 | 1.67E-05 | 8.24E-01 | 7.13E-01 | 5.88E-01 |
| 79 | 6,370,322.63 | 1022.999722 | 0.01 | 9.58E+02 | 5.98E-01 | 5.89E+05 | 3.86E-02 | 1082.214382 | 802.06 | 1.67E-05 | 8.25E-01 | 7.15E-01 | 5.90E-01 |
| 80 | 6,450,959.63 | 1026.480955 | 0.01 | 9.54E+02 | 5.96E-01 | 5.87E+05 | 3.87E-02 | 1080.013779 | 799.74 | 1.66E-05 | 8.26E-01 | 7.16E-01 | 5.92E-01 |
| 81 | 6,531,596.62 | 1029.930569 | 0.01 | 9.51E+02 | 5.94E-01 | 5.84E+05 | 3.88E-02 | 1077.819142 | 797.42 | 1.65E-05 | 8.27E-01 | 7.18E-01 | 5.94E-01 |
| 82 | 6,612,233.62 | 1033.349236 | 0.01 | 9.48E+02 | 5.92E-01 | 5.82E+05 | 3.90E-02 | 1075.630393 | 795.11 | 1.65E-05 | 8.28E-01 | 7.19E-01 | 5.96E-01 |
| 83 | 6,692,870.61 | 1036.737605 | 0.01 | 9.45E+02 | 5.91E-01 | 5.80E+05 | 3.91E-02 | 1073.447456 | 792.81 | 1.64E-05 | 8.29E-01 | 7.21E-01 | 5.98E-01 |
| 84 | 6,773,507.61 | 1040.096305 | 0.01 | 9.42E+02 | 5.89E-01 | 5.78E+05 | 3.93E-02 | 1071.270253 | 790.52 | 1.64E-05 | 8.30E-01 | 7.22E-01 | 6.00E-01 |
| 85 | 6,854,144.60 | 1043.425945 | 0.01 | 9.39E+02 | 5.87E-01 | 5.75E+05 | 3.95E-02 | 1069.098707 | 788.23 | 1.63E-05 | 8.32E-01 | 7.24E-01 | 6.02E-01 |
| 86 | 6,934,781.60 | 1046.727114 | 0.01 | 9.36E+02 | 5.85E-01 | 5.73E+05 | 3.96E-02 | 1066.93274 | 785.95 | 1.63E-05 | 8.33E-01 | 7.25E-01 | 6.04E-01 |
| 87 | 7,015,418.59 | 1050.000382 | 0.01 | 9.33E+02 | 5.83E-01 | 5.70E+05 | 3.98E-02 | 1064.772275 | 783.68 | 1.62E-05 | 8.34E-01 | 7.27E-01 | 6.06E-01 |
| 88 | 7,096,055.59 | 1053.246301 | 0.01 | 9.30E+02 | 5.81E-01 | 5.68E+05 | 4.00E-02 | 1062.617235 | 781.41 | 1.61E-05 | 8.35E-01 | 7.28E-01 | 6.08E-01 |
| 89 | 7,176,692.58 | 1056.465407 | 0.01 | 9.27E+02 | 5.79E-01 | 5.66E+05 | 4.01E-02 | 1060.467543 | 779.15 | 1.61E-05 | 8.36E-01 | 7.30E-01 | 6.10E-01 |
| 90 | 7,257,329.58 | 1059.658219 | 0.01 | 9.24E+02 | 5.77E-01 | 5.63E+05 | 4.03E-02 | 1058.323123 | 776.90 | 1.60E-05 | 8.37E-01 | 7.31E-01 | 6.12E-01 |
| 91 | 7,337,966.58 | 1062.82524 | 0.01 | 9.21E+02 | 5.75E-01 | 5.61E+05 | 4.05E-02 | 1056.183898 | 774.65 | 1.60E-05 | 8.38E-01 | 7.33E-01 | 6.14E-01 |
| 92 | 7,418,603.57 | 1065.966959 | 0.01 | 9.18E+02 | 5.74E-01 | 5.58E+05 | 4.07E-02 | 1054.049792 | 772.41 | 1.59E-05 | 8.39E-01 | 7.35E-01 | 6.16E-01 |
| 93 | 7,499,240.57 | 1069.08385 | 0.01 | 9.15E+02 | 5.72E-01 | 5.56E+05 | 4.08E-02 | 1051.92073 | 770.17 | 1.59E-05 | 8.40E-01 | 7.36E-01 | 6.18E-01 |
| 94 | 7,579,877.56 | 1072.176372 | 0.01 | 9.12E+02 | 5.70E-01 | 5.53E+05 | 4.10E-02 | 1049.796637 | 767.94 | 1.58E-05 | 8.41E-01 | 7.38E-01 | 6.20E-01 |
| 95 | 7,660,514.56 | 1075.244973 | 0.01 | 9.09E+02 | 5.68E-01 | 5.51E+05 | 4.12E-02 | 1047.677438 | 765.72 | 1.58E-05 | 8.42E-01 | 7.39E-01 | 6.22E-01 |
| 96 | 7,741,151.55 | 1078.290086 | 0.01 | 9.06E+02 | 5.67E-01 | 5.48E+05 | 4.14E-02 | 1045.563059 | 763.50 | 1.57E-05 | 8.43E-01 | 7.41E-01 | 6.25E-01 |
| 97 | 7,821,788.55 | 1081.312133 | 0.01 | 9.04E+02 | 5.65E-01 | 5.45E+05 | 4.16E-02 | 1043.453426 | 761.29 | 1.57E-05 | 8.44E-01 | 7.42E-01 | 6.27E-01 |
| 98 | 7,902,425.54 | 1084.311524 | 0.01 | 9.01E+02 | 5.63E-01 | 5.43E+05 | 4.18E-02 | 1041.348467 | 759.08 | 1.56E-05 | 8.45E-01 | 7.44E-01 | 6.29E-01 |
| 99 | 7,983,062.54 | 1087.288657 | 0.01 | 8.98E+02 | 5.61E-01 | 5.40E+05 | 4.20E-02 | 1039.248108 | 756.88 | 1.56E-05 | 8.46E-01 | 7.45E-01 | 6.31E-01 |
| 100 | 8,063,699.53 | 1090.24392 | 0.01 | 8.95E+02 | 5.60E-01 | 5.37E+05 | 4.22E-02 | 1037.152279 | 754.69 | 1.55E-05 | 8.47E-01 | 7.47E-01 | 6.33E-01 |

Table D.2: Mach = 1.5 and Turbine Inlet Temperature = 1600

| Mach = 1.5 and Turbine Inlet Temperature = 1700 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diffuser | | | | | | | | | | | | | |
| Tt2 | 314.32 | | | | | | | | | | | | |
| Pt2 | 80,637.00 | | | | | | | | | | | | |
| | | | | | | | | | Specific Thrust (Ns/kg) | TSFC (kg/Ns) | Nth | Npt | Ntot |
| c/p Ratio | Pt3 | Tt3 | f | Tt5 | Tt5/Tt4 | Pt5 (Pa) | P/Pt5 | V9 (m/s) | M=1.5 T=1700 | M=1.5 T=1700 | M=1.5 T=1700 | M=1.5 T=1700 | M=1.5 T=1700 |
| 1 | 80,637.00 | 314.3241053 | 0.03 | 1.70E+03 | 1.00E+00 | 8.06E+04 | 2.81E-01 | 1013.054211 | 752.04 | 4.41E-05 | 2.90E-01 | 7.68E-01 | 2.23E-01 |
| 2 | 161,273.99 | 379.0336431 | 0.03 | 1.64E+03 | 9.66E-01 | 1.38E+05 | 1.64E-01 | 1149.682567 | 891.38 | 3.54E-05 | 4.11E-01 | 6.74E-01 | 2.77E-01 |
| 3 | 241,910.99 | 422.8976318 | 0.03 | 1.60E+03 | 9.43E-01 | 1.86E+05 | 1.22E-01 | 1203.86347 | 945.98 | 3.22E-05 | 4.73E-01 | 6.44E-01 | 3.05E-01 |
| 4 | 322,547.98 | 457.0648583 | 0.03 | 1.57E+03 | 9.25E-01 | 2.27E+05 | 9.99E-02 | 1233.069936 | 975.04 | 3.04E-05 | 5.13E-01 | 6.29E-01 | 3.23E-01 |
| 5 | 403,184.98 | 485.4568224 | 0.03 | 1.55E+03 | 9.10E-01 | 2.64E+05 | 8.60E-02 | 1250.962259 | 992.59 | 2.92E-05 | 5.43E-01 | 6.20E-01 | 3.36E-01 |
| 6 | 483,821.97 | 509.9590753 | 0.03 | 1.53E+03 | 8.97E-01 | 2.97E+05 | 7.65E-02 | 1262.671667 | 1,003.88 | 2.83E-05 | 5.66E-01 | 6.14E-01 | 3.47E-01 |
| 7 | 564,458.97 | 531.6377909 | 0.03 | 1.51E+03 | 8.86E-01 | 3.27E+05 | 6.95E-02 | 1270.605238 | 1,011.37 | 2.75E-05 | 5.84E-01 | 6.11E-01 | 3.57E-01 |
| 8 | 645,095.96 | 551.160269 | 0.03 | 1.49E+03 | 8.75E-01 | 3.54E+05 | 6.41E-02 | 1276.056004 | 1,016.36 | 2.69E-05 | 6.00E-01 | 6.08E-01 | 3.65E-01 |
| 9 | 725,732.96 | 568.9745202 | 0.03 | 1.47E+03 | 8.66E-01 | 3.79E+05 | 5.99E-02 | 1279.785656 | 1,019.63 | 2.64E-05 | 6.14E-01 | 6.06E-01 | 3.72E-01 |
| 10 | 806,369.95 | 585.3972537 | 0.03 | 1.46E+03 | 8.57E-01 | 4.02E+05 | 5.64E-02 | 1282.274036 | 1,021.67 | 2.60E-05 | 6.25E-01 | 6.05E-01 | 3.78E-01 |
| 11 | 887,006.95 | 600.6614042 | 0.03 | 1.44E+03 | 8.49E-01 | 4.24E+05 | 5.36E-02 | 1283.839295 | 1,022.80 | 2.56E-05 | 6.36E-01 | 6.04E-01 | 3.84E-01 |
| 12 | 967,643.94 | 614.9437569 | 0.03 | 1.43E+03 | 8.42E-01 | 4.44E+05 | 5.12E-02 | 1284.701051 | 1,023.23 | 2.52E-05 | 6.45E-01 | 6.04E-01 | 3.90E-01 |
| 13 | 1,048,280.94 | 628.3819517 | 0.03 | 1.42E+03 | 8.34E-01 | 4.62E+05 | 4.91E-02 | 1285.015927 | 1,023.13 | 2.49E-05 | 6.54E-01 | 6.04E-01 | 3.95E-01 |
| 14 | 1,128,917.93 | 641.0854445 | 0.03 | 1.41E+03 | 8.28E-01 | 4.80E+05 | 4.73E-02 | 1284.898669 | 1,022.61 | 2.46E-05 | 6.61E-01 | 6.04E-01 | 3.99E-01 |
| 15 | 1,209,554.93 | 653.1428455 | 0.02 | 1.40E+03 | 8.21E-01 | 4.96E+05 | 4.58E-02 | 1284.435259 | 1,021.76 | 2.43E-05 | 6.68E-01 | 6.04E-01 | 4.04E-01 |
| 16 | 1,290,191.93 | 664.6269924 | 0.02 | 1.39E+03 | 8.15E-01 | 5.11E+05 | 4.44E-02 | 1283.691376 | 1,020.63 | 2.41E-05 | 6.75E-01 | 6.04E-01 | 4.08E-01 |
| 17 | 1,370,828.92 | 675.5985527 | 0.02 | 1.38E+03 | 8.09E-01 | 5.25E+05 | 4.32E-02 | 1282.718023 | 1,019.29 | 2.39E-05 | 6.81E-01 | 6.05E-01 | 4.12E-01 |
| 18 | 1,451,465.92 | 686.1086428 | 0.02 | 1.37E+03 | 8.04E-01 | 5.39E+05 | 4.21E-02 | 1281.555382 | 1,017.77 | 2.36E-05 | 6.87E-01 | 6.05E-01 | 4.16E-01 |
| 19 | 1,532,102.91 | 696.200771 | 0.02 | 1.36E+03 | 7.98E-01 | 5.51E+05 | 4.12E-02 | 1280.235508 | 1,016.10 | 2.34E-05 | 6.92E-01 | 6.06E-01 | 4.19E-01 |
| 20 | 1,612,739.91 | 705.9123053 | 0.02 | 1.35E+03 | 7.93E-01 | 5.63E+05 | 4.03E-02 | 1278.784258 | 1,014.31 | 2.32E-05 | 6.97E-01 | 6.06E-01 | 4.23E-01 |
| 21 | 1,693,376.90 | 715.2755993 | 0.02 | 1.34E+03 | 7.88E-01 | 5.74E+05 | 3.95E-02 | 1277.222697 | 1,012.42 | 2.31E-05 | 7.02E-01 | 6.07E-01 | 4.26E-01 |
| 22 | 1,774,013.90 | 724.3188687 | 0.02 | 1.33E+03 | 7.83E-01 | 5.85E+05 | 3.88E-02 | 1275.568137 | 1,010.44 | 2.29E-05 | 7.06E-01 | 6.08E-01 | 4.29E-01 |
| 23 | 1,854,650.89 | 733.0668823 | 0.02 | 1.32E+03 | 7.79E-01 | 5.95E+05 | 3.82E-02 | 1273.834918 | 1,008.40 | 2.27E-05 | 7.11E-01 | 6.09E-01 | 4.32E-01 |
| 24 | 1,935,287.89 | 741.5415127 | 0.02 | 1.32E+03 | 7.74E-01 | 6.04E+05 | 3.76E-02 | 1272.035002 | 1,006.29 | 2.26E-05 | 7.15E-01 | 6.09E-01 | 4.35E-01 |
| 25 | 2,015,924.88 | 749.7621801 | 0.02 | 1.31E+03 | 7.70E-01 | 6.13E+05 | 3.70E-02 | 1270.178432 | 1,004.14 | 2.24E-05 | 7.18E-01 | 6.10E-01 | 4.38E-01 |
| 26 | 2,096,561.88 | 757.7462131 | 0.02 | 1.30E+03 | 7.66E-01 | 6.21E+05 | 3.65E-02 | 1268.273691 | 1,001.94 | 2.23E-05 | 7.22E-01 | 6.11E-01 | 4.41E-01 |
| 27 | 2,177,198.87 | 765.5091452 | 0.02 | 1.29E+03 | 7.61E-01 | 6.29E+05 | 3.61E-02 | 1266.327978 | 999.71 | 2.21E-05 | 7.26E-01 | 6.12E-01 | 4.44E-01 |
| 28 | 2,257,835.87 | 773.0649592 | 0.02 | 1.29E+03 | 7.57E-01 | 6.37E+05 | 3.56E-02 | 1264.347434 | 997.45 | 2.20E-05 | 7.29E-01 | 6.13E-01 | 4.47E-01 |
| 29 | 2,338,472.86 | 780.4262915 | 0.02 | 1.28E+03 | 7.53E-01 | 6.44E+05 | 3.53E-02 | 1262.33732 | 995.17 | 2.18E-05 | 7.32E-01 | 6.14E-01 | 4.50E-01 |
| 30 | 2,419,109.86 | 787.6046034 | 0.02 | 1.27E+03 | 7.50E-01 | 6.50E+05 | 3.49E-02 | 1260.302162 | 992.87 | 2.17E-05 | 7.35E-01 | 6.15E-01 | 4.52E-01 |
| 31 | 2,499,746.86 | 794.6103249 | 0.02 | 1.27E+03 | 7.46E-01 | 6.56E+05 | 3.46E-02 | 1258.245866 | 990.55 | 2.16E-05 | 7.38E-01 | 6.16E-01 | 4.55E-01 |
| 32 | 2,580,383.85 | 801.4529782 | 0.02 | 1.26E+03 | 7.42E-01 | 6.62E+05 | 3.43E-02 | 1256.171814 | 988.22 | 2.15E-05 | 7.41E-01 | 6.17E-01 | 4.57E-01 |
| 33 | 2,661,020.85 | 808.1412819 | 0.02 | 1.26E+03 | 7.39E-01 | 6.68E+05 | 3.40E-02 | 1254.082944 | 985.88 | 2.14E-05 | 7.44E-01 | 6.18E-01 | 4.60E-01 |
| 34 | 2,741,657.84 | 814.6832408 | 0.02 | 1.25E+03 | 7.35E-01 | 6.73E+05 | 3.37E-02 | 1251.981817 | 983.54 | 2.13E-05 | 7.47E-01 | 6.19E-01 | 4.62E-01 |
| 35 | 2,822,294.84 | 821.0862239 | 0.02 | 1.24E+03 | 7.32E-01 | 6.78E+05 | 3.35E-02 | 1249.870665 | 981.19 | 2.11E-05 | 7.49E-01 | 6.20E-01 | 4.64E-01 |
| 36 | 2,902,931.83 | 827.3570309 | 0.02 | 1.24E+03 | 7.28E-01 | 6.82E+05 | 3.33E-02 | 1247.751445 | 978.83 | 2.10E-05 | 7.52E-01 | 6.21E-01 | 4.67E-01 |
| 37 | 2,983,568.83 | 833.501951 | 0.02 | 1.23E+03 | 7.25E-01 | 6.86E+05 | 3.31E-02 | 1245.62587 | 976.47 | 2.09E-05 | 7.55E-01 | 6.22E-01 | 4.69E-01 |
| 38 | 3,064,205.82 | 839.5268138 | 0.02 | 1.23E+03 | 7.22E-01 | 6.90E+05 | 3.29E-02 | 1243.495445 | 974.12 | 2.08E-05 | 7.57E-01 | 6.23E-01 | 4.71E-01 |
| 39 | 3,144,842.82 | 845.437034 | 0.02 | 1.22E+03 | 7.19E-01 | 6.94E+05 | 3.27E-02 | 1241.361494 | 971.76 | 2.07E-05 | 7.59E-01 | 6.24E-01 | 4.74E-01 |
| 40 | 3,225,479.81 | 851.2376504 | 0.02 | 1.22E+03 | 7.16E-01 | 6.98E+05 | 3.25E-02 | 1239.225182 | 969.40 | 2.06E-05 | 7.62E-01 | 6.25E-01 | 4.76E-01 |
| 41 | 3,306,116.81 | 856.9333614 | 0.02 | 1.21E+03 | 7.12E-01 | 7.01E+05 | 3.24E-02 | 1237.087538 | 967.05 | 2.05E-05 | 7.64E-01 | 6.26E-01 | 4.78E-01 |
| 42 | 3,386,753.80 | 862.5285549 | 0.02 | 1.21E+03 | 7.09E-01 | 7.04E+05 | 3.22E-02 | 1234.949468 | 964.70 | 2.05E-05 | 7.66E-01 | 6.27E-01 | 4.80E-01 |
| 43 | 3,467,390.80 | 868.027336 | 0.02 | 1.20E+03 | 7.07E-01 | 7.07E+05 | 3.21E-02 | 1232.811773 | 962.35 | 2.04E-05 | 7.68E-01 | 6.28E-01 | 4.82E-01 |
| 44 | 3,548,027.79 | 873.4335516 | 0.02 | 1.20E+03 | 7.04E-01 | 7.09E+05 | 3.20E-02 | 1230.675161 | 960.01 | 2.03E-05 | 7.70E-01 | 6.29E-01 | 4.84E-01 |
| 45 | 3,628,664.79 | 878.7508116 | 0.02 | 1.19E+03 | 7.01E-01 | 7.12E+05 | 3.19E-02 | 1228.540254 | 957.68 | 2.02E-05 | 7.72E-01 | 6.30E-01 | 4.87E-01 |
| 46 | 3,709,301.79 | 883.9825086 | 0.02 | 1.19E+03 | 6.98E-01 | 7.14E+05 | 3.18E-02 | 1226.407606 | 955.35 | 2.01E-05 | 7.74E-01 | 6.31E-01 | 4.89E-01 |
| 47 | 3,789,938.78 | 889.1318356 | 0.02 | 1.18E+03 | 6.95E-01 | 7.16E+05 | 3.17E-02 | 1224.277704 | 953.02 | 2.00E-05 | 7.76E-01 | 6.32E-01 | 4.91E-01 |
| 48 | 3,870,575.78 | 894.2018013 | 0.02 | 1.18E+03 | 6.92E-01 | 7.18E+05 | 3.16E-02 | 1222.150977 | 950.70 | 1.99E-05 | 7.78E-01 | 6.33E-01 | 4.93E-01 |
| 49 | 3,951,212.77 | 899.1952448 | 0.02 | 1.17E+03 | 6.90E-01 | 7.19E+05 | 3.16E-02 | 1220.027804 | 948.39 | 1.99E-05 | 7.80E-01 | 6.34E-01 | 4.95E-01 |
| 50 | 4,031,849.77 | 904.1148479 | 0.02 | 1.17E+03 | 6.87E-01 | 7.21E+05 | 3.15E-02 | 1217.90852 | 946.08 | 1.98E-05 | 7.81E-01 | 6.36E-01 | 4.97E-01 |
| 51 | 4,112,486.76 | 908.9631473 | 0.02 | 1.16E+03 | 6.85E-01 | 7.22E+05 | 3.14E-02 | 1215.793418 | 943.78 | 1.97E-05 | 7.83E-01 | 6.37E-01 | 4.99E-01 |
| 52 | 4,193,123.76 | 913.7425446 | 0.02 | 1.16E+03 | 6.82E-01 | 7.23E+05 | 3.14E-02 | 1213.682755 | 941.49 | 1.96E-05 | 7.85E-01 | 6.38E-01 | 5.00E-01 |
| 53 | 4,273,760.75 | 918.4553163 | 0.02 | 1.15E+03 | 6.79E-01 | 7.24E+05 | 3.13E-02 | 1211.576757 | 939.21 | 1.95E-05 | 7.87E-01 | 6.39E-01 | 5.02E-01 |
| 54 | 4,354,397.75 | 923.1036224 | 0.02 | 1.15E+03 | 6.77E-01 | 7.25E+05 | 3.13E-02 | 1209.475619 | 936.93 | 1.95E-05 | 7.88E-01 | 6.40E-01 | 5.04E-01 |
| 55 | 4,435,034.74 | 927.6895146 | 0.02 | 1.15E+03 | 6.74E-01 | 7.26E+05 | 3.13E-02 | 1207.379513 | 934.66 | 1.94E-05 | 7.90E-01 | 6.41E-01 | 5.06E-01 |
| 56 | 4,515,671.74 | 932.2149431 | 0.02 | 1.14E+03 | 6.72E-01 | 7.27E+05 | 3.12E-02 | 1205.288585 | 932.40 | 1.93E-05 | 7.91E-01 | 6.42E-01 | 5.08E-01 |
| 57 | 4,596,308.73 | 936.6817638 | 0.02 | 1.14E+03 | 6.70E-01 | 7.27E+05 | 3.12E-02 | 1203.202963 | 930.14 | 1.93E-05 | 7.93E-01 | 6.43E-01 | 5.10E-01 |
| 58 | 4,676,945.73 | 941.0917443 | 0.02 | 1.13E+03 | 6.67E-01 | 7.28E+05 | 3.12E-02 | 1201.122754 | 927.89 | 1.92E-05 | 7.95E-01 | 6.44E-01 | 5.12E-01 |
| 59 | 4,757,582.72 | 945.4465695 | 0.02 | 1.13E+03 | 6.65E-01 | 7.28E+05 | 3.12E-02 | 1199.04805 | 925.65 | 1.91E-05 | 7.96E-01 | 6.45E-01 | 5.14E-01 |
| 60 | 4,838,219.72 | 949.7478468 | 0.02 | 1.13E+03 | 6.63E-01 | 7.28E+05 | 3.12E-02 | 1196.978927 | 923.42 | 1.90E-05 | 7.98E-01 | 6.46E-01 | 5.16E-01 |
| 61 | 4,918,856.72 | 953.9971109 | 0.02 | 1.12E+03 | 6.60E-01 | 7.28E+05 | 3.12E-02 | 1194.915448 | 921.20 | 1.90E-05 | 7.99E-01 | 6.47E-01 | 5.17E-01 |
| 62 | 4,999,493.71 | 958.1958281 | 0.02 | 1.12E+03 | 6.58E-01 | 7.28E+05 | 3.12E-02 | 1192.857662 | 918.98 | 1.89E-05 | 8.00E-01 | 6.49E-01 | 5.19E-01 |
| 63 | 5,080,130.71 | 962.3454007 | 0.02 | 1.11E+03 | 6.56E-01 | 7.28E+05 | 3.12E-02 | 1190.80561 | 916.77 | 1.89E-05 | 8.02E-01 | 6.50E-01 | 5.21E-01 |
| 64 | 5,160,767.70 | 966.4471705 | 0.02 | 1.11E+03 | 6.54E-01 | 7.28E+05 | 3.12E-02 | 1188.75932 | 914.57 | 1.88E-05 | 8.03E-01 | 6.51E-01 | 5.23E-01 |
| 65 | 5,241,404.70 | 970.5024223 | 0.02 | 1.11E+03 | 6.51E-01 | 7.27E+05 | 3.12E-02 | 1186.718814 | 912.38 | 1.87E-05 | 8.05E-01 | 6.52E-01 | 5.25E-01 |
| 66 | 5,322,041.69 | 974.5123874 | 0.02 | 1.10E+03 | 6.49E-01 | 7.27E+05 | 3.12E-02 | 1184.684104 | 910.19 | 1.87E-05 | 8.06E-01 | 6.53E-01 | 5.26E-01 |
| 67 | 5,402,678.69 | 978.4782464 | 0.02 | 1.10E+03 | 6.47E-01 | 7.26E+05 | 3.12E-02 | 1182.655195 | 908.01 | 1.86E-05 | 8.07E-01 | 6.54E-01 | 5.28E-01 |
| 68 | 5,483,315.68 | 982.4011319 | 0.02 | 1.10E+03 | 6.45E-01 | 7.26E+05 | 3.13E-02 | 1180.632086 | 905.84 | 1.85E-05 | 8.09E-01 | 6.55E-01 | 5.30E-01 |
| 69 | 5,563,952.68 | 986.2821314 | 0.02 | 1.09E+03 | 6.43E-01 | 7.25E+05 | 3.13E-02 | 1178.614769 | 903.68 | 1.85E-05 | 8.10E-01 | 6.56E-01 | 5.32E-01 |
| 70 | 5,644,589.67 | 990.1222896 | 0.02 | 1.09E+03 | 6.41E-01 | 7.24E+05 | 3.13E-02 | 1176.603234 | 901.52 | 1.84E-05 | 8.11E-01 | 6.57E-01 | 5.33E-01 |
| 71 | 5,725,226.67 | 993.9226107 | 0.02 | 1.09E+03 | 6.39E-01 | 7.24E+05 | 3.14E-02 | 1174.597461 | 899.37 | 1.84E-05 | 8.13E-01 | 6.58E-01 | 5.35E-01 |
| 72 | 5,805,863.66 | 997.6840604 | 0.02 | 1.08E+03 | 6.37E-01 | 7.23E+05 | 3.14E-02 | 1172.59743 | 897.23 | 1.83E-05 | 8.14E-01 | 6.60E-01 | 5.37E-01 |
| 73 | 5,886,500.66 | 1001.407568 | 0.02 | 1.08E+03 | 6.35E-01 | 7.22E+05 | 3.15E-02 | 1170.603115 | 895.10 | 1.82E-05 | 8.15E-01 | 6.61E-01 | 5.38E-01 |
| 74 | 5,967,137.65 | 1005.094028 | 0.02 | 1.08E+03 | 6.33E-01 | 7.21E+05 | 3.15E-02 | 1168.614488 | 892.97 | 1.82E-05 | 8.16E-01 | 6.62E-01 | 5.40E-01 |
| 75 | 6,047,774.65 | 1008.744303 | 0.02 | 1.07E+03 | 6.31E-01 | 7.19E+05 | 3.15E-02 | 1166.631517 | 890.85 | 1.81E-05 | 8.17E-01 | 6.63E-01 | 5.42E-01 |
| 76 | 6,128,411.65 | 1012.359222 | 0.02 | 1.07E+03 | 6.29E-01 | 7.18E+05 | 3.16E-02 | 1164.654167 | 888.74 | 1.81E-05 | 8.19E-01 | 6.64E-01 | 5.44E-01 |
| 77 | 6,209,048.64 | 1015.939588 | 0.02 | 1.07E+03 | 6.27E-01 | 7.17E+05 | 3.17E-02 | 1162.682401 | 886.64 | 1.80E-05 | 8.20E-01 | 6.65E-01 | 5.45E-01 |
| 78 | 6,289,685.64 | 1019.486173 | 0.02 | 1.06E+03 | 6.25E-01 | 7.16E+05 | 3.17E-02 | 1160.71618 | 884.54 | 1.80E-05 | 8.21E-01 | 6.66E-01 | 5.47E-01 |
| 79 | 6,370,322.63 | 1022.999722 | 0.02 | 1.06E+03 | 6.23E-01 | 7.14E+05 | 3.18E-02 | 1158.755462 | 882.45 | 1.79E-05 | 8.22E-01 | 6.67E-01 | 5.49E-01 |
| 80 | 6,450,959.63 | 1026.480955 | 0.02 | 1.06E+03 | 6.21E-01 | 7.13E+05 | 3.18E-02 | 1156.800205 | 880.36 | 1.78E-05 | 8.23E-01 | 6.69E-01 | 5.50E-01 |
| 81 | 6,531,596.62 | 1029.930569 | 0.02 | 1.05E+03 | 6.19E-01 | 7.12E+05 | 3.19E-02 | 1154.850363 | 878.28 | 1.78E-05 | 8.24E-01 | 6.70E-01 | 5.52E-01 |
| 82 | 6,612,233.62 | 1033.349236 | 0.02 | 1.05E+03 | 6.17E-01 | 7.10E+05 | 3.20E-02 | 1152.905892 | 876.21 | 1.77E-05 | 8.25E-01 | 6.71E-01 | 5.54E-01 |
| 83 | 6,692,870.61 | 1036.737605 | 0.02 | 1.05E+03 | 6.16E-01 | 7.09E+05 | 3.20E-02 | 1150.966743 | 874.15 | 1.77E-05 | 8.27E-01 | 6.72E-01 | 5.55E-01 |
| 84 | 6,773,507.61 | 1040.096305 | 0.02 | 1.04E+03 | 6.14E-01 | 7.07E+05 | 3.21E-02 | 1149.032869 | 872.09 | 1.76E-05 | 8.28E-01 | 6.73E-01 | 5.57E-01 |
| 85 | 6,854,144.60 | 1043.425945 | 0.02 | 1.04E+03 | 6.12E-01 | 7.05E+05 | 3.22E-02 | 1147.10422 | 870.04 | 1.76E-05 | 8.29E-01 | 6.74E-01 | 5.59E-01 |
| 86 | 6,934,781.60 | 1046.727114 | 0.02 | 1.04E+03 | 6.10E-01 | 7.04E+05 | 3.23E-02 | 1145.180748 | 867.99 | 1.75E-05 | 8.30E-01 | 6.75E-01 | 5.60E-01 |
| 87 | 7,015,418.59 | 1050.000382 | 0.02 | 1.03E+03 | 6.08E-01 | 7.02E+05 | 3.23E-02 | 1143.262401 | 865.95 | 1.75E-05 | 8.31E-01 | 6.76E-01 | 5.62E-01 |
| 88 | 7,096,055.59 | 1053.246301 | 0.02 | 1.03E+03 | 6.07E-01 | 7.00E+05 | 3.24E-02 | 1141.349128 | 863.92 | 1.74E-05 | 8.32E-01 | 6.78E-01 | 5.64E-01 |
| 89 | 7,176,692.58 | 1056.465407 | 0.01 | 1.03E+03 | 6.05E-01 | 6.98E+05 | 3.25E-02 | 1139.440878 | 861.89 | 1.74E-05 | 8.33E-01 | 6.79E-01 | 5.65E-01 |
| 90 | 7,257,329.58 | 1059.658219 | 0.01 | 1.03E+03 | 6.03E-01 | 6.96E+05 | 3.26E-02 | 1137.537598 | 859.87 | 1.73E-05 | 8.34E-01 | 6.80E-01 | 5.67E-01 |
| 91 | 7,337,966.58 | 1062.82524 | 0.01 | 1.02E+03 | 6.01E-01 | 6.94E+05 | 3.27E-02 | 1135.639238 | 857.86 | 1.73E-05 | 8.35E-01 | 6.81E-01 | 5.68E-01 |
| 92 | 7,418,603.57 | 1065.966959 | 0.01 | 1.02E+03 | 6.00E-01 | 6.93E+05 | 3.28E-02 | 1133.745744 | 855.85 | 1.72E-05 | 8.36E-01 | 6.82E-01 | 5.70E-01 |
| 93 | 7,499,240.57 | 1069.08385 | 0.01 | 1.02E+03 | 5.98E-01 | 6.91E+05 | 3.29E-02 | 1131.857064 | 853.84 | 1.72E-05 | 8.37E-01 | 6.83E-01 | 5.72E-01 |
| 94 | 7,579,877.56 | 1072.176372 | 0.01 | 1.01E+03 | 5.96E-01 | 6.89E+05 | 3.30E-02 | 1129.973146 | 851.85 | 1.71E-05 | 8.38E-01 | 6.84E-01 | 5.73E-01 |
| 95 | 7,660,514.56 | 1075.244973 | 0.01 | 1.01E+03 | 5.95E-01 | 6.87E+05 | 3.31E-02 | 1128.093936 | 849.85 | 1.71E-05 | 8.39E-01 | 6.85E-01 | 5.75E-01 |
| 96 | 7,741,151.55 | 1078.290086 | 0.01 | 1.01E+03 | 5.93E-01 | 6.84E+05 | 3.32E-02 | 1126.219382 | 847.87 | 1.70E-05 | 8.40E-01 | 6.87E-01 | 5.77E-01 |
| 97 | 7,821,788.55 | 1081.312133 | 0.01 | 1.01E+03 | 5.91E-01 | 6.82E+05 | 3.33E-02 | 1124.349431 | 845.89 | 1.70E-05 | 8.41E-01 | 6.88E-01 | 5.78E-01 |
| 98 | 7,902,425.54 | 1084.311524 | 0.01 | 1.00E+03 | 5.90E-01 | 6.80E+05 | 3.34E-02 | 1122.484032 | 843.91 | 1.69E-05 | 8.42E-01 | 6.89E-01 | 5.80E-01 |
| 99 | 7,983,062.54 | 1087.288657 | 0.01 | 1.00E+03 | 5.88E-01 | 6.78E+05 | 3.35E-02 | 1120.62313 | 841.94 | 1.69E-05 | 8.43E-01 | 6.90E-01 | 5.81E-01 |
| 100 | 8,063,699.53 | 1090.24392 | 0.01 | 9.97E+02 | 5.87E-01 | 6.76E+05 | 3.36E-02 | 1118.766675 | 839.98 | 1.68E-05 | 8.44E-01 | 6.91E-01 | 5.83E-01 |

Table D.3: Mach = 1.5 and Turbine Inlet Temperature = 1700

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