

JABATAN KEJURUTERAAN MEKANIKAL

FINAL YEAR PROJECT REPORT

PROJECT 2



AIR PORTABLE DRYER

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ABSTRAK

Pengering mudah alih udara dilaksanakan untuk menyelesaikan masalah pengeringan pakaian yang tidak sempurna dalam kehidupan seharian. Mesin ini dilengkapi dengan kipas dan elemen pemanas sesuai digunakan dalam proses pengeringan pakaian dalam masa yang singkat. Idea ini diperoleh setelah melihat permasalahan yang sering berlaku dalam masyarakat. Antara masalah biasa ialah pakaian tidak boleh kering dengan sempurna kerana faktor cuaca yang tidak menentu. Seterusnya adalah ruang terhad untuk mengeringkan pakaian di rumah seperti pangsapuri kerana kebanyakan penyangkut pakaian terdedah kepada banyak masalah. Tujuan utama projek ini adalah untuk memudahkan proses menjemur pakaian semasa hujan dan cuaca tidak menentu. Kelembapan yang tinggi melambatkan proses pengeringan pakaian di samping mengambil masa yang lama untuk kering. Projek ini menggunakan beberapa komponen seperti elemen pemanas sebagai sumber haba dan fabrik nilon sebagai perangkap haba supaya ia tidak merebak. Tinjauan telah dijalankan untuk mendapatkan ulasan tentang projek ini dan maklum balas yang diterima adalah positif

ABSTRACT

Air portable dryer is implemented to solve the problem in the drying of imperfect clothes in daily life. This machine is equipped with a fan and heating element suitable for use in the process of drying clothes in a short time. This idea was obtained after seeing the problems that often occur to society. One of the common problems is the clothes cannot dry properly due to unpredictable weather factors. Next is the limited space to dry clothes in homes such as apartments as most clothes hangers are prone to many problems. The main purpose of this project is to facilitate the process of drying clothes during rainy and unpredictable weather. High humidity slows down the process of drying clothes while taking a long time to dry. The project uses several components such as heating elements as a source of heat and nylon fabric as a heat trap so that it does not spread out. A survey was conducted to obtain reviews about this project and the feedback received was positive.

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CHAPTER1

INTRODUCTION

1.1 INTRODUCTION

The project that we want to implement for the final year project is an air portable dryer, this idea was sparked when we could see the difficulties of users who want to dry clothes with difficulty, there are also users who do not have time to dry due to lack of time, and also cannot afford to have it because the price is expensive and not affordable, and there are also those who have to waste time going to the laundry because they cannot afford it. In addition, with the large size of the space to be used in the home area, that is one reason why consumers are quite difficult to have old clothes dryer

This air portable dryer is an item that is very necessary for everyone, because it is a daily necessity for everyone. With the product that we produce, this can make it easier for everyone, because the product that we want to produce, which is Air Portable Dryer, is a tool to dry clothes easily, and this product will greatly benefit every Traveler, because of the rate the size is not too big, easy to fold, this item is also light, and can be used anywhere compared to old clothes dryers. For travelers, they can use and take it anywhere without hindrance.

1.2 PROBLEM STATEMENT

This air portable dryer is implemented to solve the problem of imperfect clothes drying in daily life. This machine is equipped with a heating element that is suitable for use in the process of drying clothes in a short time. This idea was obtained after seeing the problems that often occur. One of the common problems is that clothes cannot dry perfectly due to unpredictable weather factors. Many people choose to wear clothes that are not completely dry which is very unhealthy as this can cause skin diseases.

Next is the limited space for drying clothes in homes such as apartments because most clothes hangers are prone to many problems. The main purpose of this project is to develop a drying room for clothes during rainy and unpredictable weather. High humidity slows down the drying process of clothes in addition to taking a long time to dry.

Another situation that has been taken into account is the haze problem that continues to spread every year. Air pollution that may contain particles harmful to our skin may tend to stick to clothes when they dry outdoors. urban areas where

1.3 RESEARCH OBJECTIVE

It is to develop a portable clothes dryer that we are targeting for everyone . It has movable wheels and an industrial blower.

- Save cost from existing ones.
- Does not take up a lot of space while using it.
- Easily to bring everywhere

1.4 RESEARCH QUESTIONS

This study will answer the following research questions

- How can wet clothes dry faster indoor?
- How do we save more time during laundry?
- How to increase the level of mobility of a dryer?

1.5 SCOPE OF RESEARCH

The scopes and limits research are:

- Offers a simple automatic drying system that is suitable for those who can't manage clothes and is simple to use, especially for travellers.
- To plan and research a waste heat-powered dryer. iii) Construct dryers as needed and desired.
- This project can be used in a small space and functions as intended. It also works well.

1.6 SIGNIFICANCE OF RESEARCH

Nevertheless, clothes drying racks have already been created, sold, and distributed all over the world in a variety of models and price ranges. The majority of Malaysians are still ignorant of its existence, though. Additionally, most people discover that saving a little money on a dryer is preferable to wearing damp clothes or waiting a long time for their clothes to dry. Therefore, it is anticipated that the study's findings will change people's perceptions of how innovatively designed clothes drying racks can be.

Additionally, the fact that Malaysians won't have to worry about laundry will be a huge plus. The majority of users and travellers are unaware of the benefits and conveniences of modern technology, including this Air portable dryer. With the help of this new technology, consumers won't have to waste their time and effort using self-service laundries.

1.7 CHAPTER SUMMARY

The study has discussed where inspiration for ideas comes from in this chapter. All problem statements are used to create all objectives. Even though the scope of this project only concentrates on a simple clothes dryer, especially focused on travelling due to the design, size, and ease of folding is the good and the new factor about the dryer we want to produce, the objective of this project as well as its importance is a clothes drying rack that is very portable and affordable making it more convenient for the people. In order to extend the lifespan of this new dryer, it can be used for regular tasks with excellent care.

TOPIC 2 : LITERATURE REVIEW

2.1 LITERATURE REVIEW

This literature review explains about relevant past research and project development which is used the almost similar system for this project. A literature review was conducted to obtain information related to the project being developed. In this study, the focus is more on projects that have been done either directly or based on observations. In the context of this design, detailed study in all aspects is important to ensure that each process can be carried out well.

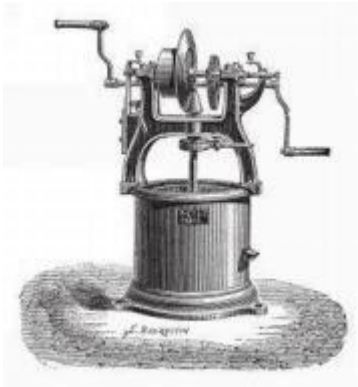
Technological and scientific advances today have no limits and no boundaries. Humans have tried to create a variety of goods or equipment to make their daily lives easier. Wherever we are, we can see a wide variety of electrical goods used to meet human needs.

2.2 INTRODUCTION

When it's raining, it's difficult for people to go home and choose their clothes. The weather in Malaysia is erratic. On occasion, it rains in the morning and shines in the late afternoon. The purpose of a tumble dryer, often known as a clothes dryer, is to dry garments usually soon after they have been cleaned in a washing machine, moisture from a load of garments and other fabrics. The majority of dryers have a rotating tumbler through which warm air is pumped to remove moisture from the load. To keep the items in the load separated from one another, the tumbler is turned somewhat slowly. The tumbler is typically operated by an induction motor using a belt.

There are two general classes of rotating dryers: electric and gas. Both of these refer to the method used to raise the temperature of the air flowing through the tumbler, since the tumbling action is usually electrically powered. The electric dryer generally uses a coiled wire that is heated with electric current. The amount of electric current is varied to adjust the air temperature. The gas dryer employs a gas burner that burns natural gas, propane, or butane to form a jet of hot gases that are directed into a venturi chamber, which uses Bernoulli principle to pull in ambient air and raise its temperature. The air temperature can be altered by adjusting the size of the gas flame or, more commonly, by merely extinguishing it and relighting it. Gas dryers require electricity to spin the clothes, but the amount of electricity is much smaller than in an electric dryer removing the need for a special connection.

2.3 THEORY OF DRYER



Research articles that are used to comprehend and delve deeper into a topic are referred to as literature. Instead of simply summarising the research conducted by other researchers, the literature review examines the research that has been conducted in the field of study to provide contextual studies. The researcher can also determine the project's weaknesses and strengths through the analysis of the literature. The literature review is crucial because it can serve as a guide and a point of reference for the researcher as they carry out this study in a number of ways. This chapter's contents could include a succinct introduction to the study's subject, a concept or article related to it, earlier research related to the topic. An overview of this chapter. It is necessary to determine the general topic of the problem or area of interest before providing the proper context for the literature review.

We take dryers for granted, but it wasn't too long ago that when clothes needed drying, we took them outside to hang on the clothesline. While their popularity grew in the 1950s, dryers didn't really begin coming into their own until around 1960.

Before jumping into the advancements of dryers, let's take a look at the early history of the units. If you're ready to upgrade your commercial dryer in Raleigh, NC, call the experts at T & L. You'll love our affordable pricing.

As science continues to progress, human civilization has ever enter into a new realm. Household electrification has become a symbol of progress .In southern China and some humid regions in foreign countries, clothes are still wet in several days after washing. People deeply suffered from it. The invention of clothing quick-drying device has solved this problem and has brought great convenience to people living in wet areas. According to the need of the people at home or traveling, this paper brought a new design conception which makes innovative design and research from the function and structure, materials and technology and human relationships.

To let people use it at the same time feel a happy convenience life.

2.4 PRODUCT REVIEW

Research on clothes dryers

Types of clothes dryers:

1. TOSHIBA 7KG SENSE TD-H80SEM



FEATURES

- Sensedry
- Anti-crease
- Quick20(Auto Balance)
- Voltage(V) 220-240
- 2.DEERMA R10 CLOTHES DRYER HEATING

2.DEERMA R10 CLOTHES DRYER HEATING



FEATURES.

- Alters the traditional heating method.
- Use 360°all directions three dimensions blowing method.
- Adopts digital display timer, much convenient.
- Adopts sensor clip, dry the clothes automatically

3.LG DRYER TD-C8066WS



FEATURES

- Display big LED
- Window button / Touch button
- Cabinet painted steel
- Control pannel plastic

2.5 PRODUCT'S MATERIALS SELECTIONS



HEATER

The function of heater is blowing hot air into the wardrobe from below. The air then passes over nichrome wire coils that heat it , making it able to blow the clothes dry with hot air . the process of air blowing on the clothes speeds up water evaporation. The components that we use in heater is timer , main circuit , mini fan , heating elements and power cable .



NYLON FABRIC

The nylon fabric is used as the basket exterior . this is able to prevent massive heat loss. Nylon is a polymer, meaning it is a plastic that has a molecular structure of a large number of similar units bonded together. An analogy would be that it is just like a metal chain is made of repeating links. Nylon is a whole family of very similar types of materials called polyamides. Nylon has both excellent strength and abrasion resistance, allowing it to stand up to any sport. It has a fantastic elastic recovery meaning that fabrics can stretch to their limits without losing their shape. Besides, nylon has good resistance to sunlight, making it an excellent choice for activewear. Its ability to accept acid dyes makes it possible to achieve brighter colors than it's other synthetic counterparts.



STAINLESS STEEL

Stainless steel, referring to any one of a family of alloy steels, usually contains 10 to 30 percent chromium. When combined with low carbon contents, chromium imparts remarkable resistance to corrosion and heat. Other elements such as nickel, molybdenum, titanium, aluminum, niobium, copper, nitrogen, sulphur, phosphorus, and selenium may be added to increase corrosion resistance to specific environments (such as the aforementioned marine), enhance oxidation resistance, and impart special characteristics .

The stainless-steel design is completely waterproof and will not corrode over the years of usage. Stainless steel pipes will give at least 100 years of service without cracking or bursting. Failure of stainless steel pipe is extremely rare. And This stainless steel is used to make basket racks and clothes hangers during the drying process.



MAIN CIRCUIT

A circuit is the closed loop through which electricity can flow. A closed circuit allows an uninterrupted flow of electricity from the source of power, through the conductor or wire, to the load, and then back again to the ground or source of power. An open circuit will not conduct electricity because either air, or some other insulator has stopped or broken the flow of current in the loop .



POWER PLUG

A power cable is an electrical cable, an assembly of one or more electrical conductors, usually held together with an overall sheath. The assembly is used for transmission of electrical power. Power cables may be installed as permanent wiring within buildings, buried in the ground, run overhead, or exposed.



FAN

An exhaust fan is a fan which is used to control the interior environment by venting out unwanted odors, particulates, smoke, moisture, and other contaminants which may be present in the air. Exhaust fans can also be integrated into a heating and cooling system.

2.6 CHAPTER SUMMARY

A literature review is essential to highlight all the study on materials and processes that has been done to increase our understanding of the project as a way to summarise this chapter.

This is determined based on the required budget, the readily available parts, and the stated completion deadline. The system's use is appropriate for its intended purpose. This wellorganized management process has kept the cost of project development under control. Theoretically, the factors that require total attention are the project's operation, the components used, the software used, and the kind of hardware developed. Overall, the study's findings and ideas proved to be highly valuable in developing the project's structure and architecture. This will serve as the project's indirect main foundation for defining its course.

CHAPTER 3 TOPIC 3 : METHODOLOGY

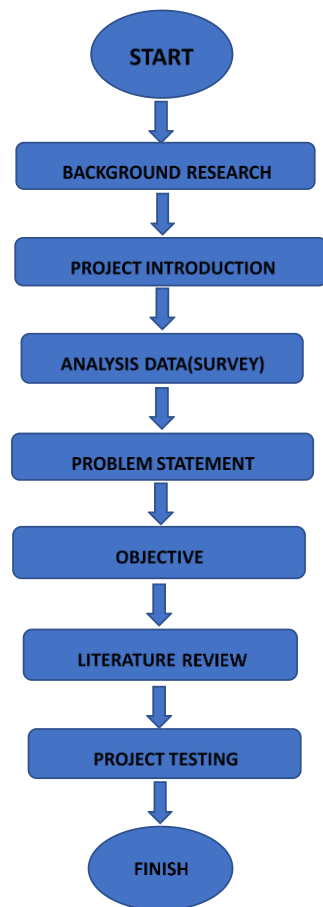
3.1 INTRODUCTION

People are always having a problem to go home to pick their clothes if it's raining. Malaysia has an unpredictable weather. Sometime it rains in the morning and sunny in the evening. A clothes dryer or tumble dryer is a household appliance that is used to remove the moisture from a load of clothing and other textiles, generally shortly after they are cleaned in a washing machine. Most dryers consist of a rotating drum called a tumbler through which heated air is circulated to evaporate the moisture from the load. The tumbler is rotated relatively slowly to maintain space between the articles in the load. In most cases, the tumbler is belt-driven by an induction motor. There are two general classes of rotating dryers: electric and gas. Both of these refer to A methodology is a plan-of-attack, especially when that plan-of-attack is used repeatedly. This might be obvious, but the word methodology is related to the word method. In fact, a methodology is a system of methods followed consistently. Scientists, for example, use various methodologies as they perform experiments, It might seem like the world is nothing but chaos and disorder , Thus, the purpose of conducting research is to obtain answers through the use of a systematic and scientific scientific method (J.supranto, 1986: 7 (quoted by Azhur, 2006: 139). Therefore, any study requires methodology as a way to obtain findings, Methodology which is used requires systematic techniques to meet scientific requirements, scientific methods and have quality. In order to develop this system, several methods to display materials have been made such as obtaining hardware and information through instructors and other colleagues.

In addition, It Is Very important to know and understand in depth every process found in the structure of the study methodology. Among What needs to be done is to get as much information as possible. Clothes dryer system is a project created to overcome the problem of erratic weather changes throughout the year causing the clothes not dry and men emitting an unpleasant dour method to this madness. And sometimes there's a methodology

In this chapter, there will be a lot of information about the process and journey through out the making of our final project. There will be flow chart showing the process of us making the whole project. This flow chart will explain the processes we took. Next, is the Gantt Chart, which will show the actual and planning throughout all the 13 weeks of our final year project journey

3.2 FLOW CHART



3.3 FLOW CHART EXPLANATION

BACKGROUND RESEARCH

- Significant changes in the weather in the last 2 years and in general the number of rain events have increased over the decades This factor is the main driver in the study of how to make clothes more effective than any other factor. In addition to making it easier for the workers, this system is known to dry oak according to a set process Every problem can be solved practically (portable dryer water drying system design) without having to go through a complicated drying process. This project is designed as a system that solves the problem of not drying and so on. The Clothes Dryer System is designed to be a dryer that can operate automatically without the use of labor. With this, it can overcome the difficult problem for every user when they want to use their clothes drying tools.

PROJECT INTRODUCTION

- This air portable dryer is an item that is very necessary for everyone, because it is a daily necessity for everyone. With the product that we produce, this can make it easier for everyone, because the product that we want to produce, which is Air Portable Dryer, is a tool to dry clothes easily, and this product will greatly benefit every Traveler, because of the rate the size is not too big, easy to fold, this item is also light, and can be used anywhere compared to old clothes dryers. For travelers, they can use and take it anywhere without hindrance.

ANALYSIS DATA (SURVEY)

- The discussions were held with the supervisor first before it was done to the working group. The survey is more focused on the effectiveness of the clothes dryer system produced. The main purpose of conducting this survey is to enable us to gather feedback that will be received from those who use regarding the project we are running.

PROBLEM STATEMENT

- Another situation that has been taken into account is the haze problem that continues to spread every year. Air pollution that may contain particles harmful to our skin may tend to stick to clothes when they dry outdoors. These incidents occur mainly in urban areas where pollution activities occur widely. Those who suffer from the situation are the tenants who live in the area.

OBJECTIVE

- Does not require a large size of space when you want to use it . This Air Portable Dryer is not as heavy as the existing ones.

LITERATURE REVIEW

- To acquire data and information on the project being developed, a literature review is performed. The projects being carried out directly or purely based on observations are more the focus of this study.

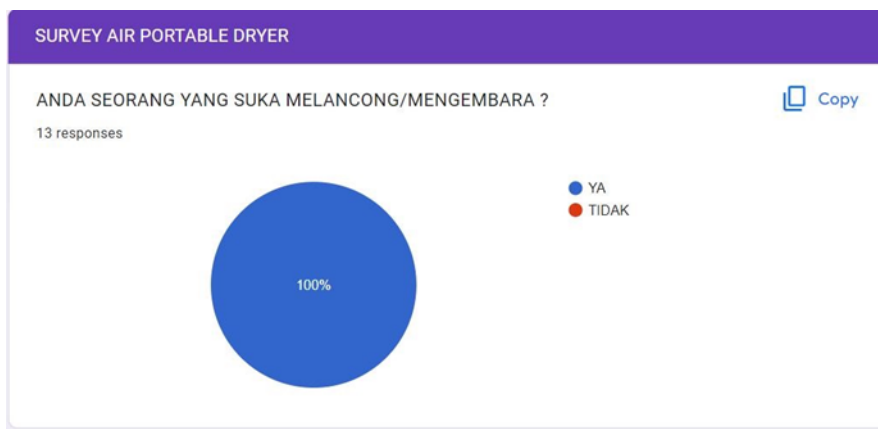
PROJECT TESTING

- To learn about the outcomes and issues the project encountered, testing needed to be done. Additionally, issues that emerge during testing can be identified before a product is released.

3.4 INTERVIEW AND RESEARCH

Modifications to earlier theses and publications on Air Portable Dryer to this interview and research. Before it had been done to the taskforce, discussions were first had with the supervisor. The efficiency of the Air Portable Dryer is the survey's main focus. The real aim of conducting this survey is to provide us the chance to gather user feedback on the project we are operating. Members of the group distribute survey forms at the housing site in order to conduct the survey.

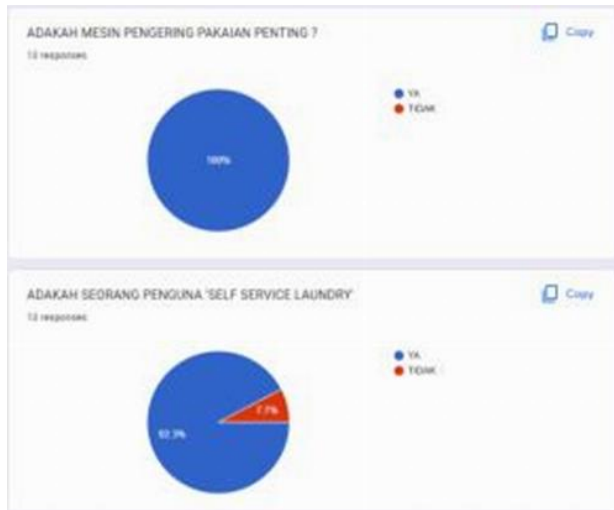
3.5 SURVEY RESULT



- Data menunjukkan 100% minat dalam pelancongan dan mengembara



- 92.3% mementingkan kebersihan dan 7.7% tidak mementingkan kebersihan
- 100% mengalami kesukaran untuk mengeringkan pakaian ketika mengembara, melancong dan cuaca buruk



- 100% mengatakan mesin pengering pakaian penting pada masa kini.
- 92.3% adalah pengguna dobi layan diri dan 7.7% tidak menggunakan dobi layan diri.



- Data menunjukkan hanya 7.7% tidak menggunakan mesin pengering baju.
- Jumlah wang yang dikeluarkan dalam lingkungan RM5 adalah 38.5%. Kedua tertinggi RM7 dengan 38.5% manakala 15.4% untuk RM6 dan RM8

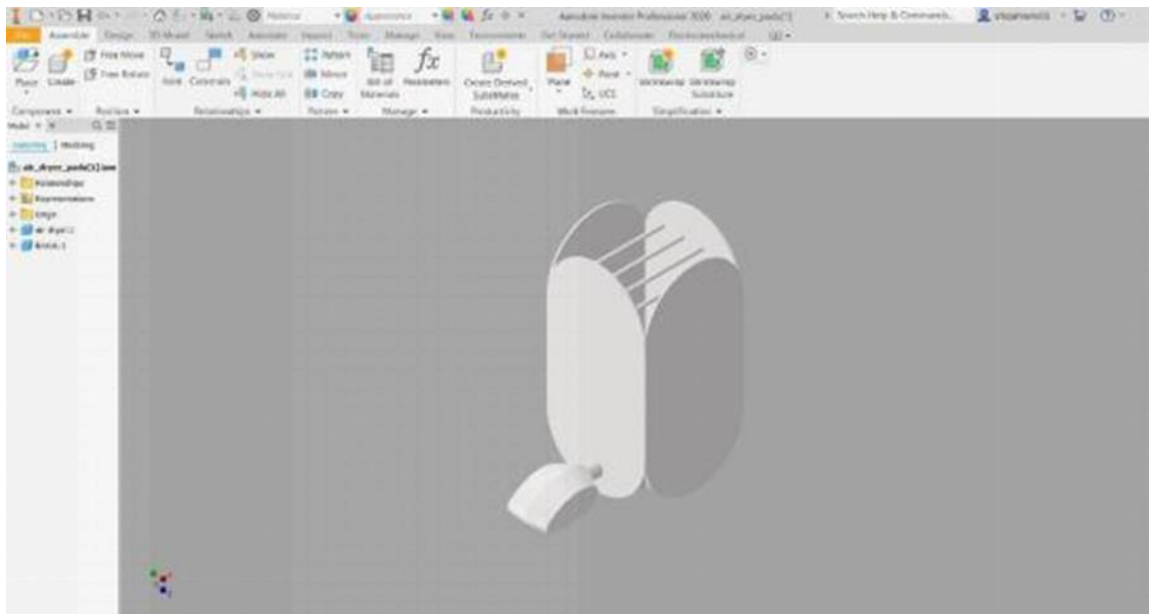


- Mesin pending baju mudah alih didapati menjadi keperluan pada masa kini

3.6 PRODUCT DESIGN

Mesin pending baju mudah alih didapati menjadi keperluan pada masa kini




IVENTOR DESIGN



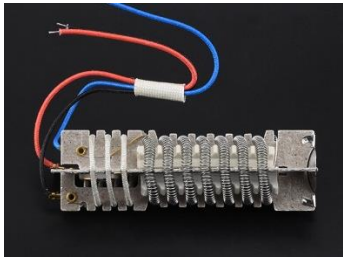
DETAILING OUR AIR PORTABLE PROJECT SYSTEM AND FUNCTION

- Below 5kg
- Heats 0-65% degrees
- Heats up to 65°C, eliminating up to 95% of germs
- PTC technology allows safe operation of up to 100 hours
- Material: Nylon
- Color: Black
- Power: 800W
- Power: 220V / 50HZ
- Features: Heater / Dryer / Hangers / Efficient Sterilization
- Size: 50 x 50 x 90cm
- Size Folded: 29 x 29 x 7cm
- Packing Size: 30 x 30 x 15cm

3.3.4 MATERIAL SELECTION

<p>1.Enclosure Box</p> 	<p>- Suis on/off has been beside the box.</p> <p>-Placement of all hot elements including timer and PVC pipes.</p>
<p>2.Pipe pvc</p> 	<p>- connector for hot air passage from the box.</p>
<p>3.Timer</p> 	<p>-timer for remind user when using this air portable dryer.</p> <p>- Auto cut-off when user already set the timer.</p>

4.Hot air machine heater



-Converts electrical energy into heat through the process of resistance, otherwise known as Joule heating. The electric current passing through the element encounters resistance, which produces heat.

5.Fan




-The fan present within sucks in air and pushes it towards the heating element where it gets warmed up rapidly.

6.Stainless steel

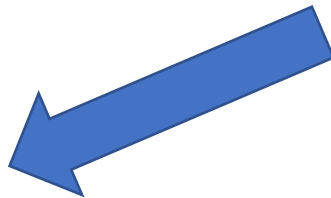


-For hanging clothes inside of air portable dryer.

- To assemble the stainless steel for skeleton of air portable dryer basket's.





<p>7.Clothes holder</p> 	<p>-Clothes holder for user when using the air portable dryer.</p>
<p>8.Wire</p> 	<p>-Wires are used for establishing electrical conductivity between two devices of an electrical circuit. They possess negligible resistance to the passage of current. The wires are covered by an insulated coating of different colours.</p>
<p>9.Nylon fabrics</p> 	<p>-The type of cloth used to make baskets.</p>

3.4 FABRICATION PROCESS AND MAKING





Equipment / Tools Used

NO.	COMPONENT	FUNCTION
1		<p>Tape Measure</p> <ul style="list-style-type: none"> A tape measure is a flexible instrument used for measuring lengths and distances.
2		<p>Screwdrivers</p> <ul style="list-style-type: none"> Screwdrivers are a type of hand tool used for the insertion and removal of screws.
3		<p>Grinding Machine</p> <ul style="list-style-type: none"> Grinding machine, often shortened to grinder, is a power tool (or machine tool) used for grinding
4		<p>Electric Screwdrivers</p> <ul style="list-style-type: none"> An electric screwdriver is a portable electric device that allows you to screw and unscrew effortlessly. The head of the screwdriver is equipped with a bit holder which can be magnetic or have a quick release system.

3.5 PRODUCT TESTING

A special feature of this project is the portable, foldable and stored in the bag. The product also offers reasonable prices while it is free of maintenance, resulting in a cost of over 50% of its competitors. This portable dryer can dry the clothes in easy conditions, and has good heat to dry the clothes. This portable dryer is also easy to carry because it is not heavy.

3.6 FINAL TOUCH UP OF THE PROJECT

After completing all of our project processes, we conducted a review of our drying time and system . It works, This product is able to dry clothes easily ,

3.7 Gantt Charts



3.8 BUDGET CALCULATION

Component	Price(RM)
Nylon Fabric	35
Stainless Steel Rod	45
Motor	100
Heating Elements	70
Fan Blade	30
TOTAL	RM280

3.8 REFERENCE

<https://www.explainthatstuff.com/how-clothes-tumble-dryers-work.html>

<https://www.theclassroom.com/the-history-of-the-clothes-dryer-13410374.html>

<https://www.homestratosphere.com/types-of-clothes-dryers/>

<https://home.howstuffworks.com/dryer.htm>

CHAPTER 4

RESULTS, FINDINGS AND ANALYSIS

4.1 INTRODUCTION

A portable clothes dryer helps to protect clothes by using controlled temperature and airflow to gently and thoroughly dry clothes without the risk of exposure to the elements, such as outdoors or humidity from the bathroom. This helps to prevent fading and shrinkage and reduce wrinkles in the clothes.

4.2 CHAPTER SUMMARY

The final configuration has been demonstrated to achieve the significant energy savings and fabric care along with significant reductions in total dry cycle times. This dramatic improvement in performance is achieved, by maximizing the output capacity, the blower was able to deliver 30-50% energy savings and dramatically lower cloth temperatures in total dry times for varying types of clothing loads that were similar or faster times than the market-best standard electric dryers.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.1 INTRODUCTION

As we all know, a Cloth Dryer is a necessary appliance. After washing clothes in a machine, clothes are still wet and require time before they are dry and suitable for wearing. Historically, we used to hang our laundry on an outdoor clothesline: wet clothes were dried under the sun, which offers light and heat and helps eliminate germs and bacteria; until the first electric dryer was invented by J. Ross Moore, who was tired of hanging clothing outside.

Nowadays, some 80% of Americans own a drier. Like J. Ross Moore, you may have had enough of your bulky clothes dryer and want to upgrade your laundry facilities with new equipment. In this post, we'll discuss the benefits of a portable clothes dryer and why it is a great addition to your home.

5.2 DISCUSSION

Air portable dryer is highly beneficial for individuals who frequently travel or have limited drying space. Portable clothes dryers are also widely employed in rented accommodations, student housing, apartments, and even RVs. A portable clothes dryer eliminates the need for a traditional clothesline or bulky, non-portable drying unit in multiple ways.

It is compact and can be conveniently placed anywhere without requiring a designated outdoor or indoor drying area. This flexibility frees up precious drying space, making it an ideal solution for individuals who live in apartments or homes with limited space.

Air portable dryer helps to protect clothes by using controlled temperature and airflow to gently and thoroughly dry clothes without the risk of exposure to the elements, such as outdoors or humidity from the bathroom. This helps to prevent fading and shrinkage and reduce wrinkles in the clothes.

It saves time by allowing users to dry clothes indoors. Outdoor drying is subject to weather conditions.

Portable clothes dryers are energy-efficient: they use less electricity compared to traditional large-size drying units.

It emits less carbon dioxide than conventional dryers.

You can bring air portable dryer with you wherever you go. If you travel frequently or like to go camping, air portable dryer will keep your clothes dry and fresh, even in locations that lack outdoor drying space.

Therefore, investing in an air portable dryer is a smart choice that can provide you with ease, convenience, and efficient drying for years.

5.3 CONCLUSION

Air portable dryer is a very useful and functional device that provides users with a number of advantages. It is perfect for those who frequently travel, camp, or have limited access to electricity, as well as for those who reside in apartments or homes with little room for drying clothes. Additionally helpful for preserving clothing, minimizing wrinkles, and saving time while using less energy and producing fewer carbon emissions is a portable clothes dryer. As a result, making the investment in a portable dryer can offer a practical and effective way to dry garments while also simplifying life for years to come.

Air Portable Dryer is ideal for those who want to do a time-saving and space-saving laundry, for it's efficient, compact, and easy to use. Whether you live in a small space or want to save money and energy by air drying your clothes, the Morus Clothes Dryer is the perfect solution for you.

Air portable dryer can handle anything from delicate textiles to bulky towels thanks to its simple controls and user-friendly interface. Additionally, it uses less energy than conventional dryers while still functioning silently.

Without requiring any complicated settings or changes, its AI-driven sensor system ensures that temperatures are monitored and controlled to ensure that clothes are dried to perfection. It eliminates the guesswork involved in drying and makes everything simple with its eight distinct modes to handle various kinds of clothing.

But the Morus Portable Clothes Dryer isn't just easy to use - it also delivers exceptional drying results. Its powerful BLDC motor and high airflow speed of up to 43.5 MPH help flatten and fluff clothes more effectively and efficiently than ever before. Additionally, it has a built-in antibacterial module that can kill up to 99.99% of bacteria.

What sets the Morus Portable Clothes Dryer apart from traditional dryers is its unrivaled speed. Its patented technology makes it 60% faster than traditional dryers, with the ability to dry clothes in as little as 15 minutes. This means you can have fresh, dry clothes ready to wear in no time, making it the perfect option for busy or emergency situations.

So don't wait for your clothes to air dry or spend hours at a laundromat. Buy the Morus Portable Clothes Dryer and enjoy quick and efficient drying right in the comfort of your own home!

WEEK	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
DATE	10/08 - 16/08	17/08 - 23/08	24/08 - 30/08	31/08 - 06/09	07/0 9 - 13/0 9	14/09 - 20/09	21/09 - 27/09	28/09 - 04/10	05/10 - 11/10	12/10 - 18/10	19/10 - 25/10	26/10 - 01/11	02/08 - 08/11	09/11 - 15/11	16/11 - 22/11
ACTIVITY															
Survey material and the market to buy the material.															
Choosing the market total costing the budget that have to use.															
Making decision about the final design of product, welding training and going to the market to buy the material.															
Welding back part of the product. (PART B) (45%)															
Welding front part of the product. (PART A) (80%)															
Product analysis. - Testing product (.85%)															
Repairing the product. (90%)															
Preparing for presentation.															
Touch up the product and ready for presentation (100%)															
Presenting day.															
Doing and sending the final report.															

<https://www.explainthatstuff.com/how-clothes-tumble-dryers-work.html>

<https://www.theclassroom.com/the-history-of-the-clothes-dryer-13410374.html>

<https://www.homestratosphere.com/types-of-clothes-dryers/>

<https://home.howstuffworks.com/dryer.htm>