

# **Technical Description of Air Fryer**

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## Definition

Air fryer is compact, countertop appliance that uses convection heating to circulate air around your food. Hence it can be used to stimulate deep frying food since it produces food that with similar crispy texture compared to those deep frying food, but you only need to put a little, or no oil to the food, which makes it less fat when consuming. Also, instead of using ovens. Microwaves, air fryers can be used to cook or heat up other food (can be used for roasting, grilling, or even baking muffins or desserts) easier by simply just click the button and set up the timer.

## Overview

Air fryers can have different colors, but most of them will be black. The most common type of air fryers will be the classic air fryer. It usually consists of two different shapes, but their function is basically the same. One will be an egg shape, with less cooking surface area. Another one will be a square shape, with larger cooking surface. For both shapes of classic air fryers, it will be looking like a trash bin overall. On the top front of the fryers, there are either buttons (see figure 1)

or a rotatable object, which is called a timer knob, where you can rotate it to set a timer for the air fryer (see figure 2).



(Figure 1: control panel)



(figure2: timer knob)

On the bottom front of the fryers, there is a handle pops out, that will be the basket you are going to put your food inside. The size of air fryers is all depending on how many people the fryer is serving, the size of the fryer will mostly change horizontally, meaning the length and width of fryers will

change but the height will remain constant (usually around the height of 30cm, width and length of 20cm).

## Components


### Main Components:

- **Air fryer base**-The base that is responsible heating the food.
- **Basket base**- The pan/ pot that is has a shell that is slightly taller than a pot attached to one side of the pot which makes it slightly imbalanced, on the layer side, a gap is being form for the handle of the basket to fill in.
- **Basket**- The plate to hold foods and being placed on the basket base.



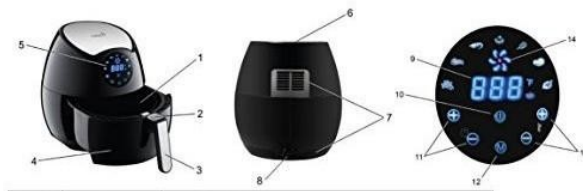
(figure3: the top object is the basket base; the bottom item is the basket)

### Sub Parts:

- 
- **Element**-The power source to produce heat up the air from air intake.
  - **Fan**- spread the heat generated by the element units to the food.
  - **Control panel**- a circular screen where it contains cooking and unit controls.
  - **Air intake**- entrance of air to the fryer to heat for cooking.
  - **Exhaust vent**- exhale air in the fryer
  - **Timer**- a + - button that control cooking time
  - **Temperature control**- a + - button that control temperature of heat generated by the element units.
  - **On/off**– turn on or turn off the machine.
  - **Number screen**- a LED screen in the middle of the control panel to indicate time.

### Parts Diagram

Refer to this diagram and associated table to better understand the controls and operation of the Air Fryer.



Item #	Name	Description
1.	Basket	Place food in the basket to be cooked.
2.	Basket release	Press the basket release button to release button to release the basket from the pan.
3.	Basket handle	Basket handle includes the basket release control.
4.	Pan	The pan holds the cooking basket.
5.	Control Panel	Contains cooking and unit controls.
6.	Air Intake	Pulls in air to heat for cooking.
7.	Hot Air Outlet	Heated air exit.
8.	Power Cord	To connect unit to grounded power source.
9.	LED Display	Displays current time/temperature value.
10.	On/Pause	Press to turn unit on or pause cooking.
11.	Timer	0-30 minute timer.
12.	Menu	Select from 7 cooking options.
13.	Temperature Control	Select cooking temperature.

Settings

- Cake
- Chicken
- Fish
- French Fries
- Meat
- Shrimp
- Steak

(Figure 4: diagram of components of air fryer)

## Explanation

In order to have the air fryer functioning, which can cook food. We need to combine all those components. We can separate the whole air fryer into two parts. The fryer part and the basket part. Basket part is composed by having the basket placed on top of the basket base, the basket should slide into the gap of the basket base perfectly by placing the handle of the basket to the gap of the basket base.



(Figure 5: basket is being placed inside the basket

base)

The Fryer part is a combination of three components, control panel, air entrance/exit, interior part.

- Control panel is usually on the top front part of the fryer base, the number screen is in the center of the control panel, the on/off feature is below the number screen. The timer is in the left side of the number screen, the temperature control is in the right side of the number screen. The control panel is connected to the fryer base with wires. When pressing each of these buttons on the panel, the fryer will perform relevant work( For example, if I press on button, the fryer will be turn on.)
- Air entrance and exit part is in the back of the fryer base, where the entrance is located on the back top, putting air inside the fryer, and air exit is in the back bottom of the base, release air.



- Interior part can be called as power part, which is consist of the element units (power unit) and fans. They are in the interior of the top of the fryer. When fryer is plugged in, the element units will heat up air putted through the air entrance, the fan will push this air onto the food.

## **Conclusion**

Since the component of air fryers are not expensive and the manufacturing is not complicated, hence the price of classic air fryer is usually at the range of \$40 -\$70 ( the price of the square type will be around 5 \$ more expensive than the circular one because the square one can hold more amount of food).

Although the air fryer is convenient and easy to use but eating food cooked by the air fryer for a long period of time might not be healthy to your body.

According to the research, it says “Air frying equipment is not known to cause cancer, but the process of air frying does result in the formation of certain compounds, like acrylamide, which are linked to cancer development.

Acrylamides are chemicals that are classified as probable human carcinogens.”

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