

Dimension	5th %ile	50th %ile	95th %ile
A Hand length	173	189	205
B Palm length	98	107	116
C Thumb length	44	51	58
D Index finger length	64	72	79
E Hand breadth	60	67	74
F Maximum grip diameter	45	52	59

MALE FEMALE

1

The measurements that I will need to consider are the weakest in the 5th% because if they can use it anyone will be able to. I will need to consider measurement F because my handle can be no bigger than that. I will also need to consider measurement E because that will be the minimum length that my handle can be.

For my utensil there is a lot of wrist movement and this can be uncomfortable. To make sure that the utensil doesn't need to be used for a long period of time I would have to make the spoons rather large this means more salad is being picked up at one time. I would also have to make sure the material I use isn't too slippery that way not too much force has to be put into the grip. Ridges would help with this issue.

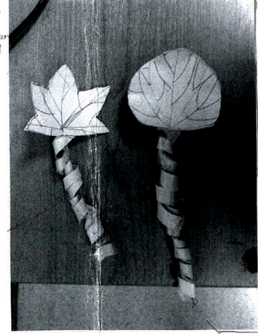
Important things that I will need to consider in my design are the diameter and thickness of the handles. This helps with not only strength of the utensil but grip. Something else to consider in relation to grip is ridges so the hands have something to hold onto rather than a straight cylinder. I have to look at length which I will determine from other utensils from the information I have gathered. I will have to consider the weight as I know that the user will only use one hand for each server. The materials will be something to consider and this will be in relation to weight and shape as in whether I will be able to achieve the shape I want using the certain material.

**a precision grip**  
 For the salad server I thought that it was a cross over of both grips because the user will need power for scooping but precision for locating object. For this to work I will need ridges in the handle to make the movements controlled and stop the hand from slipping and for power the width of the handle should be a certain thickness.

**a power grip**

Power grips.  
 I want to make sure the handle isn't too small and therefore has to be gripped to tightly causing cramp I also don't want it too big and there are some people not able to hold it. The measurement I have is for maximum grip between thumb and index finger I want to also consider thumb and smallest finger. My minimum diameter is 43mm. I think I will like to use a 20mm diameter of my handle.

2



To make my shape I have decided plastic is the best option. There have been comments about plastic being slippery therefore the ridges will be incorporated. Plastic is the material I will need to achieve the shape and detail in leaves that I want aesthetically.

the shape of the leaves is like a traditional spoon and that will make the aesthetics also practical.

I'm going to make the handles 170mm long and 15mm thick. This is so the person's hands can grip the servers comfortably and without much effort.

I have found that the leaves to still have to be fairly large so excessive use is not needed and the job can be done quickly. Through the data gathered I believe an average breadth of 60mm shall be appropriate. I would like a 15mm depth as well for a lot of salad to be picked up at one time.

The grip will be easy because it uses ridges meaning it will compensate for the mentioned slippery plastic. This will decrease amount of force needed in grip.

The use of plastic will also help with the weight issue as plastic is rather light.

Comparing Antropometric Data with Data Collected from Kitchen Utensil Analysis



Changes I made  
 I started with a 2cm by 17cm handle and was told it was too thin and short. I then tried a 3cm by 24cm handle and was told the length was good by the handle was "like holding a broom" so I went to 2.5cm by 24cm to be told it was still too thick and when I tried the 2cm width again I was told it was alright.

3

Ergonomic Aids used

- I used cardboard volume models so people could give my their opinion on handle length and width.
- I asked for people to hold the handle and tell me about comfort

From my testing I found:

- That 2cm was a good width and 24cm was a good length.
- I did not find that anthropometric data helped me much as I was only able to establish maximums and minimums. I had to discover comfort through many tests.
- I was also given the idea to put a hook on the end of the salad servers so it may hang off a bowl. After playing around with the idea I decided the minor gains were out weighed by the aesthetic costs.