**NEW ATP Sensor: Design Specifications**

Shape of previous sensor:

|  |  |  |
| --- | --- | --- |
| **AST finger (SKIN – white part)** | | |
| Length | Width | Height |
| 30 mm | 15 mm | 6 mm |

|  |  |  |
| --- | --- | --- |
| **AST finger (Support – black part)** | | |
| Length | Width | Height |
| 62 mm | 15 mm | 4 mm |

A photo of the previous sensor is visible in this [link](https://arxiv.org/pdf/2407.01739) at page 5, Fig. 2 (a) and (b)

The *new* APT finger will have new dimensions and will substitute entirely one of the two flanges which compose the Franka Robot’s gripper. Below are specified the desired dimensions for AST skin. Moreover, the new support has to be coherent to those ones.

The idea of final product is available inside the pdf file named ***Idea of final product***, which is stored inside the GitHub Repository.

|  |  |  |
| --- | --- | --- |
| **New AST finger (SKIN – white part)** | | |
| *Length* | *Width* | *Height* |
| 50 mm | 15 mm | 6 mm |

From the previous table, it’s remarkable the new dimension for the length, whereas the other two remain the same as before. Those last ones could be smaller, but the chosen dimensions must be coherent with the *New AST Support*. This new support must have two ports for acoustic hardware, i.e. the pair of microphone + speakers.

The dimensions regarding the support which holds the ATP skin could be obtained at pag. 10-11-12-13 from [Franka Emika Manual](https://download.franka.de/documents/220010_Product%20Manual_Franka%20Hand_1.2_EN.pdf).

**Resume**:

1. New length for ATP skin
2. Set coherent dimensions for ATP Support considering;
   1. Franka Manual
   2. ATP skin dimensions
3. Considering two holes for the space of the pair of microphone+speaker
   1. Holes dimensions will be defined once the acoustic hardware will be chosen