

# **Assembly instructions: continuum structure**

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## Overview testbed

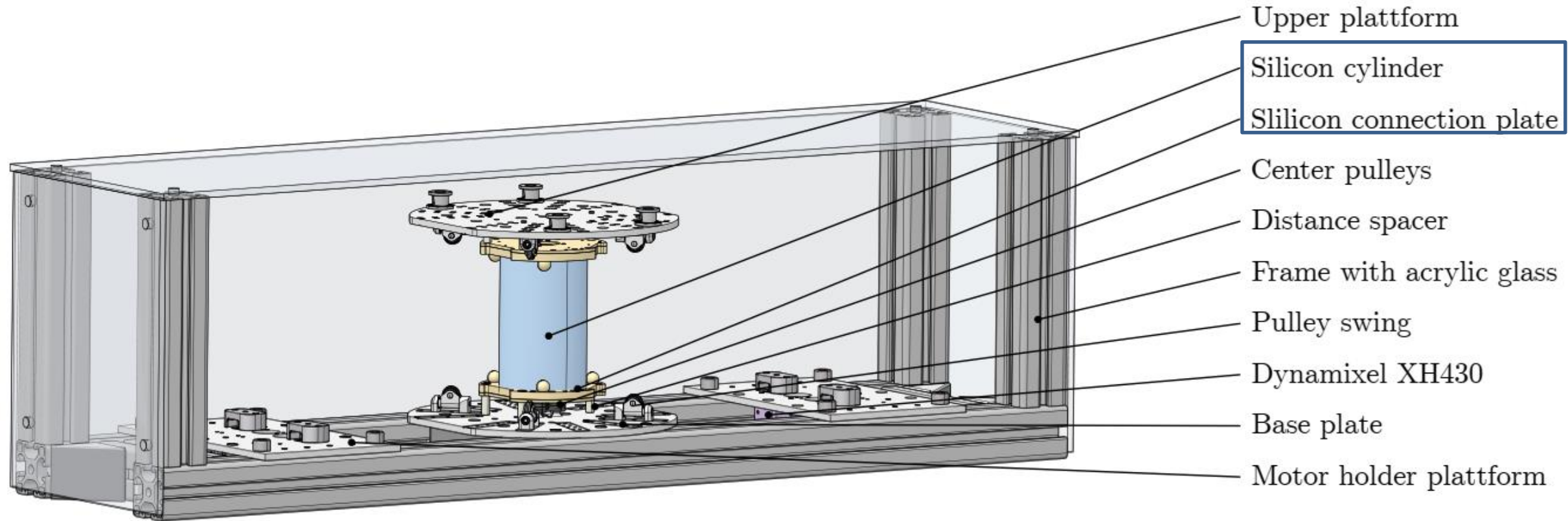


Fig. 2: Overview of the proposed open source tendon-driven continuum mechanism with all involved components.

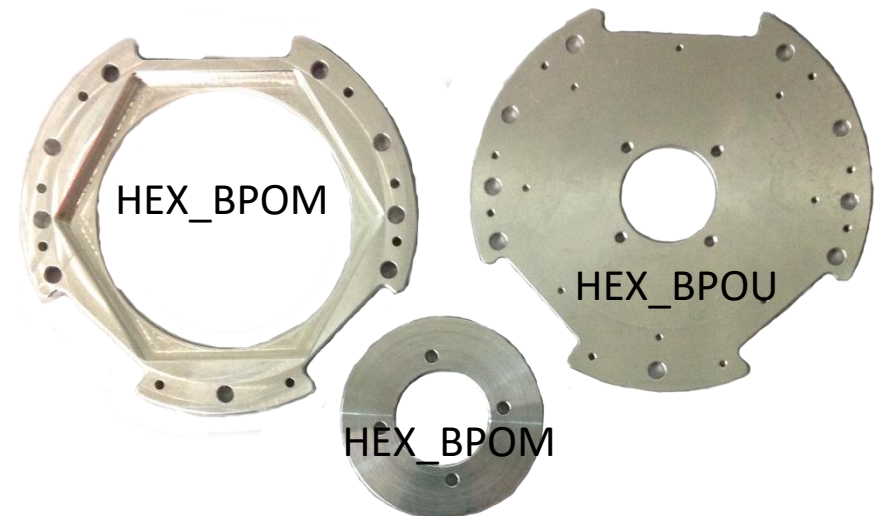
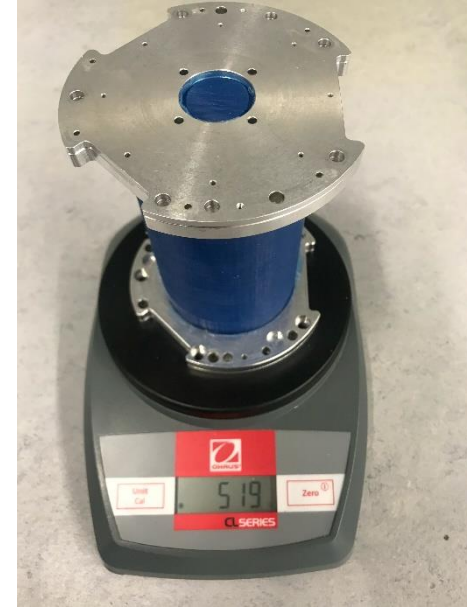
# Continuum structure components

## Manufacturing parts:

- Interface plate (3 parts)
  - HEX\_BPOU
  - HEX\_BPOO
  - HEX\_BPOM
- Molds (3D-printed)
- Funnel (3D-printed)

## Off-the-shelf parts:

- 6x dowel pin (spec?)
- 6x Senkkopfschraube (spec?)
- 8x Zylinderkopf schrauben für BPOM
- Schrauben für die Molds?
- Silicon (e.g. Dragon skin shore 30A)
- Release Agent



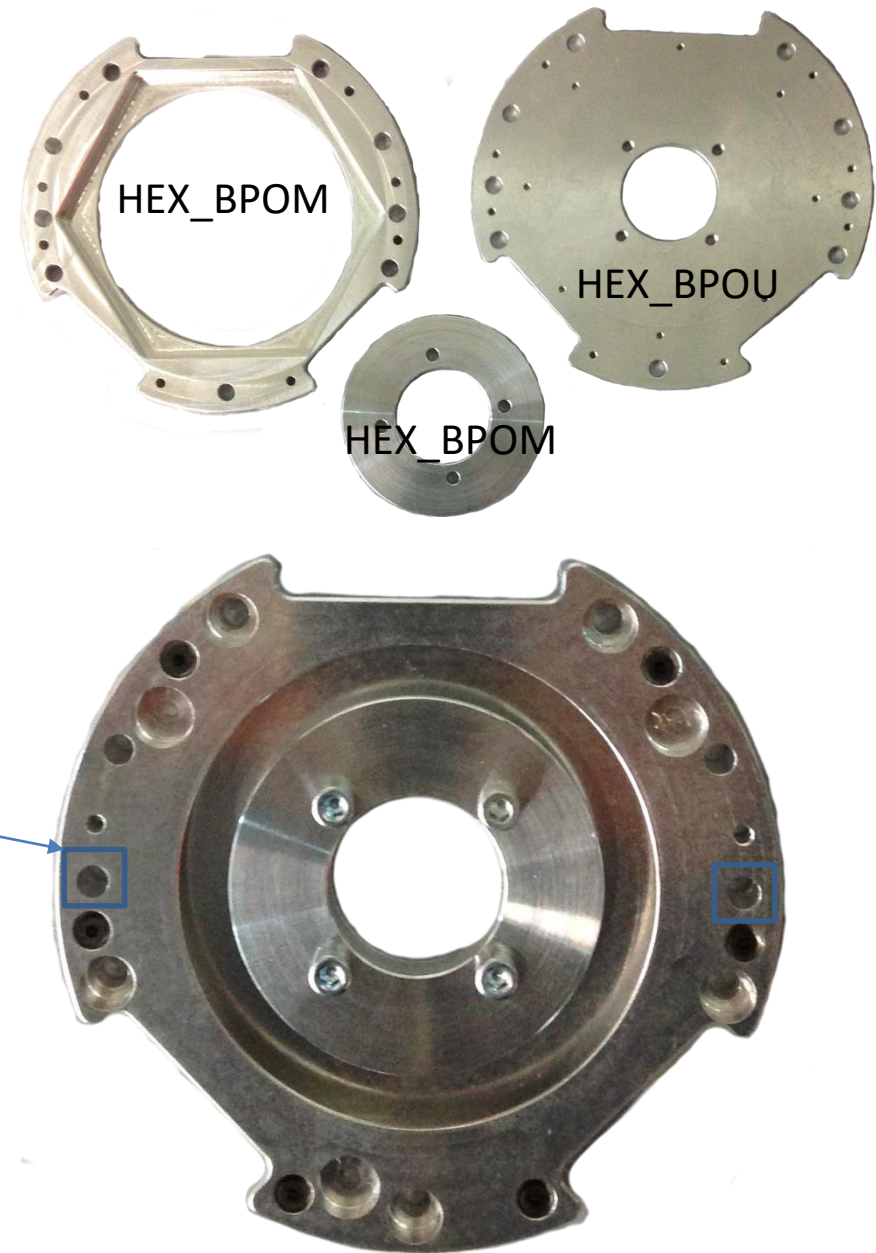
# Assembly interface plate

## Tools:

- Allenkey
- Parallel plyers

## Instructions:

- Clean all parts using iso-propanol
- Pair HEX\_BPOO and HEX\_BPOU by the dowel pins using the parallel plyers
- Pair HEX\_BPOO and HEX\_BPOU by 8x senkkopf schrauben using allen key
- Pair HEX\_BPOU and HEX\_BPOM with 4x Zylinderkopfschrauben
- Repeat all steps for 2<sup>nd</sup> interface plate



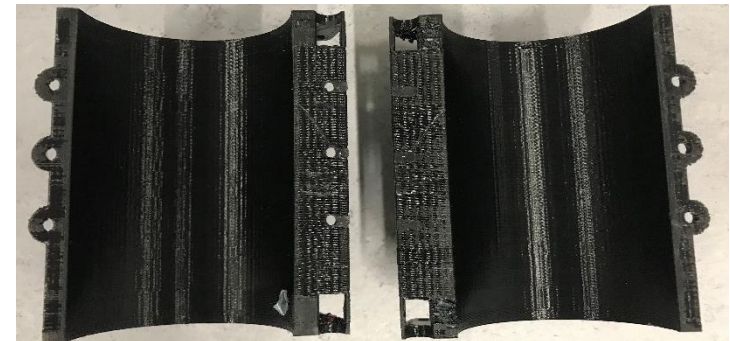
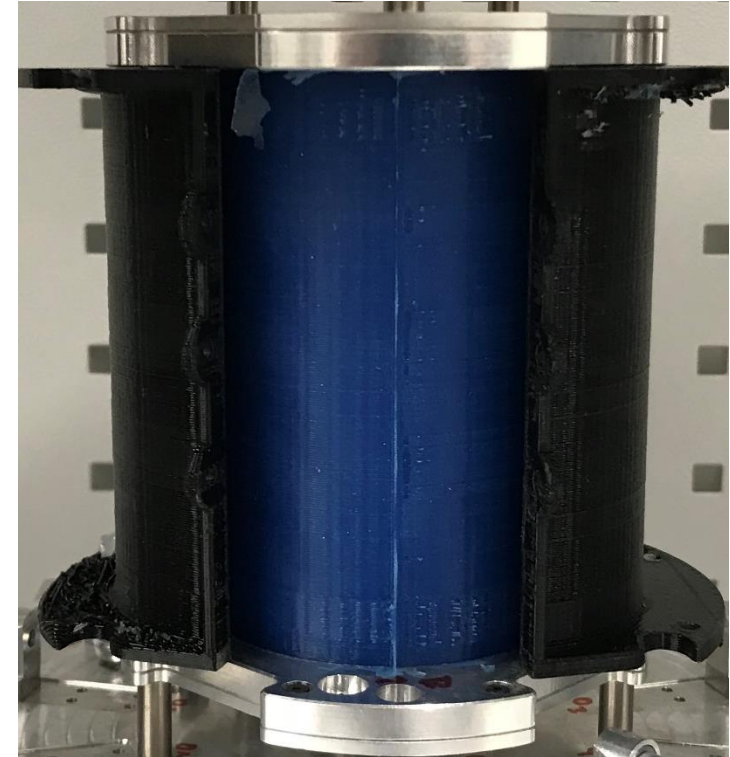
# Assembly of interface plate and moldings

## Tools:

- Allenkey

## Instructions:

- Cover the inside of the molds with the release agent
- Pair the two molds with each other using screws (specs?)
- Pair the molds and the lower and upper interface plate using screws (specs?)



# Instructions for moldings

## Tools

- Vacuum pump
- Container for to mix 2-component silicon
- Stirring staff
- Digital scale

## Parts:

- Assembled interface plates with moldings
- 3D-printed Funnel

## Instructions

- Mix 2 component silicon in container at the correct ratio (50:50 for dragon skin) with the stirring staff.
- Evacuate the mixture in the vacuum chamber by a vacuum pump to remove air-bubbles with the mixture
- Pure the evacuated mixture into the assembled moldings using the funnel
- Let it cure for the respective time (24h for dragon skin)