



Cognibotics

SigmaTau

The SigmaTau is a Parallel Kinematic Robot aiming to bridge the gap between CNC machine tools and industrial robots. By providing the right balance between performance and cost it fits perfect within a broad market.

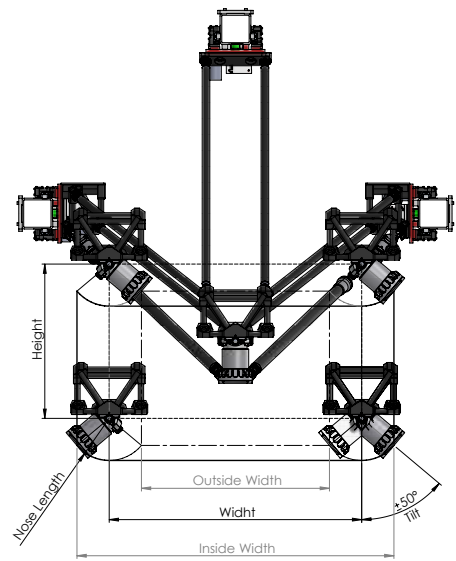
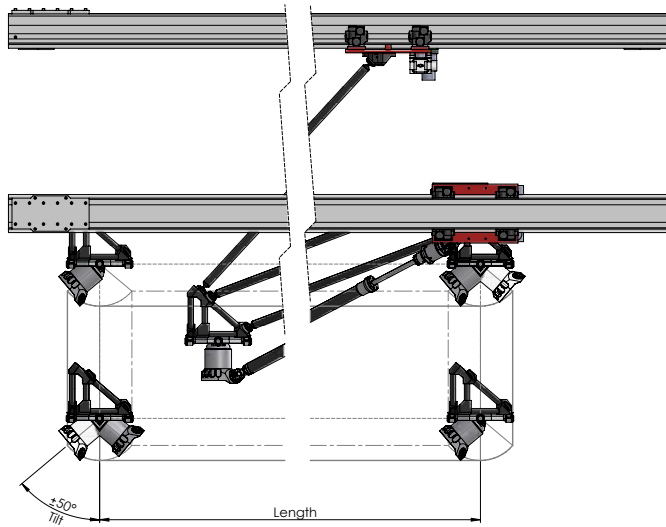
PKM Robots achieve much higher accuracy than traditional robots since any misalignments are not propagated and added up through the structure. Accuracy in the range of 0.05–0.2 mm can be achieved in the full workspace.

The SigmaTau structure can be optimized for either high process forces with high stiffness or low process forces with high dynamic behavior. Forces up to 30kN or accelerations up to 10g can be achieved.

In short:

- Higher accuracy than traditional robots
- Forces up to 30kN
- Accelerations up to 10g
- Can be mounted horizontal or vertical
- ± 50 degrees tilting of tool
- Additional positioners can be integrated

The robot can be mounted in a horizontal orientation above or on the side of the workspace or in a vertical orientation. The tool can be tilted by ± 50 degrees in any direction everywhere in the workspace. Additional positioners can be integrated to run with 5 or 6 axis continuous operation when access to all sides of an object is required.



Example Dimensions		Size 1	Size 2
Width	mm	1800	3000
Outside Width	mm	1340	2540
Inside Width	mm	2260	3460
Height	mm	1100	1800
Nose Offset	mm	300	300
Rod Length	mm	2200	3660
Tool Tilt	deg	± 50	± 50

Example of applications:

- Laser Welding
- Milling
- Drilling
- Inspection
- Fiber Layup
- Additive Manufacturing
- Friction Stir Welding

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