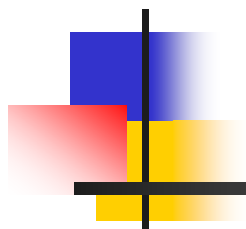


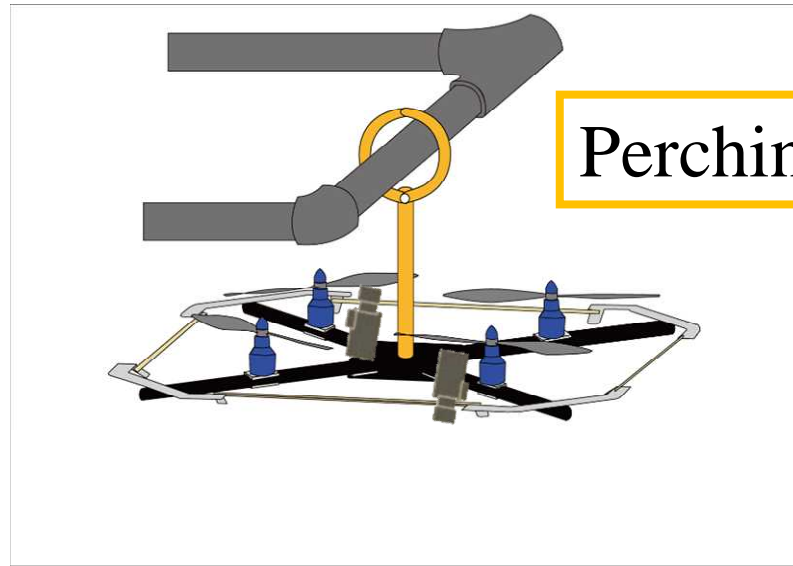
多様な物体を把持する流体圧ロボットハンド



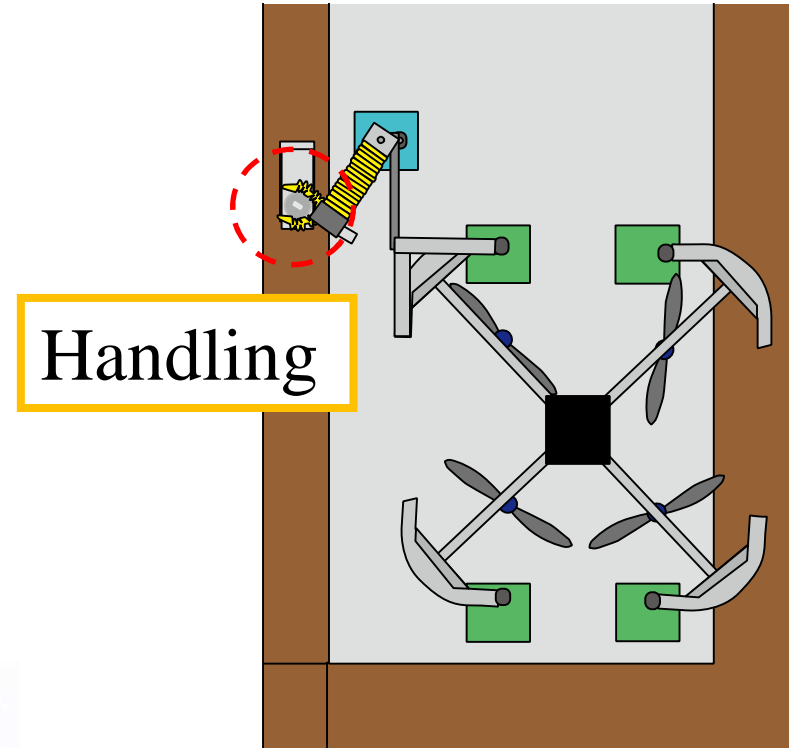
東京工業大学 工学院システム制御系

塚越秀行

Effectiveness of grasping function

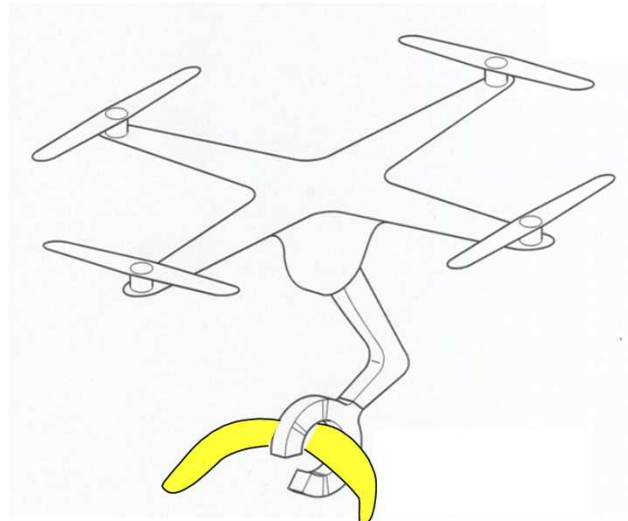


Perching



Handling

Carrying

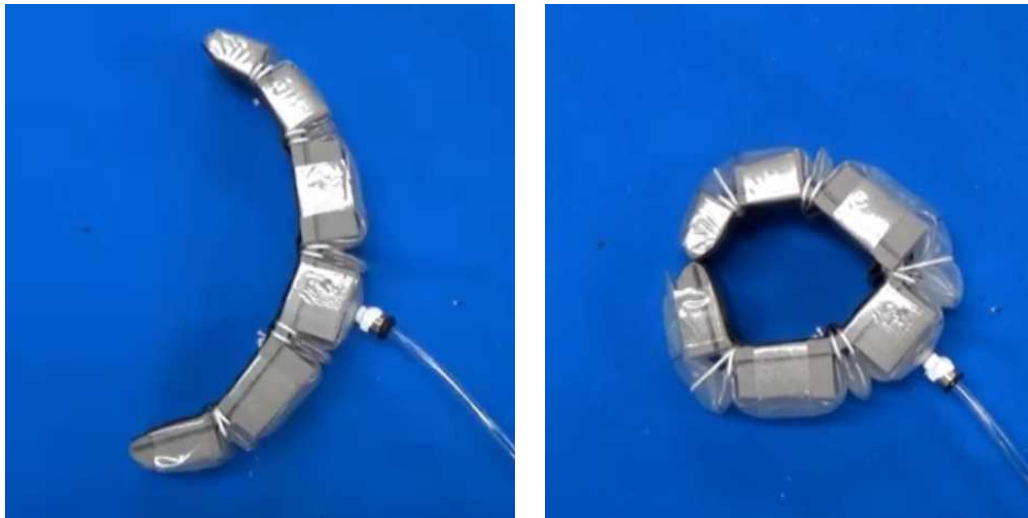


Aerial manipulator with door-opening function



H.Tsukagoshi, M, Watanabe, T.Hamada,
D.Ashlih, and R.Iizuka (ICRA2015)

Proposed Finger Structure

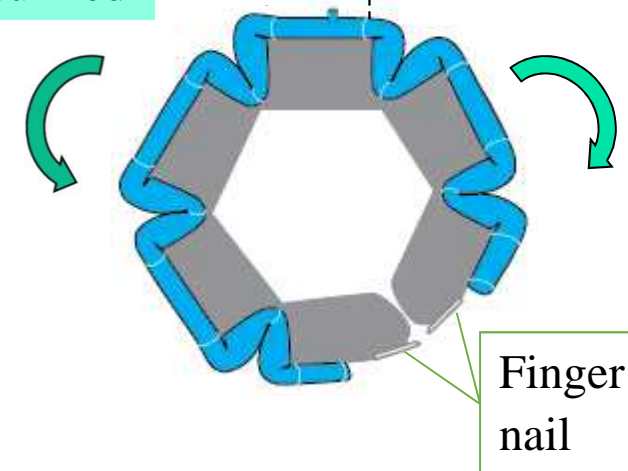


Overall structure

Non-pressurized



Pressurized



Non-pressurized

Pressurized

Flat tube

Pneumatics

a

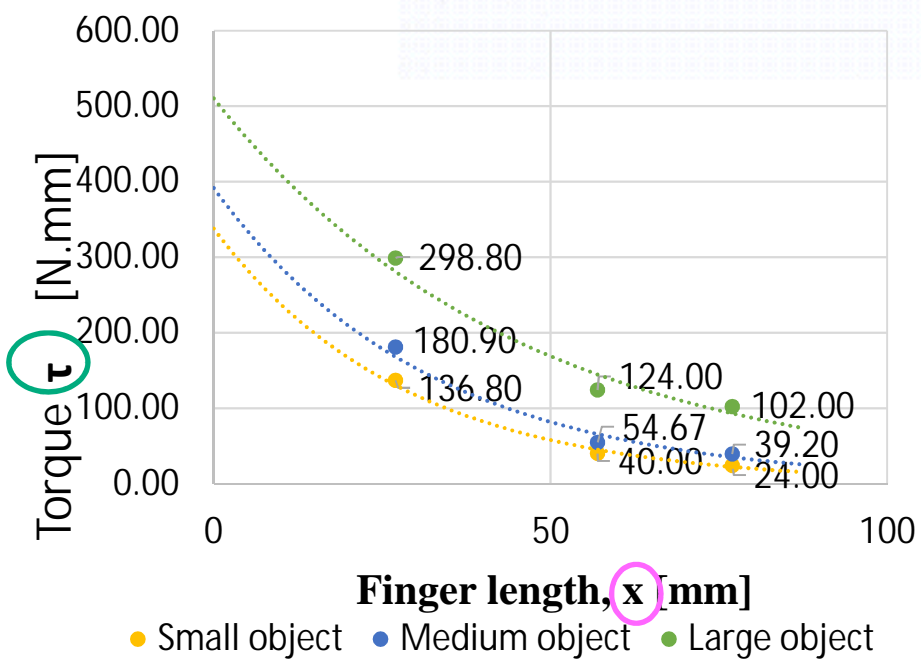
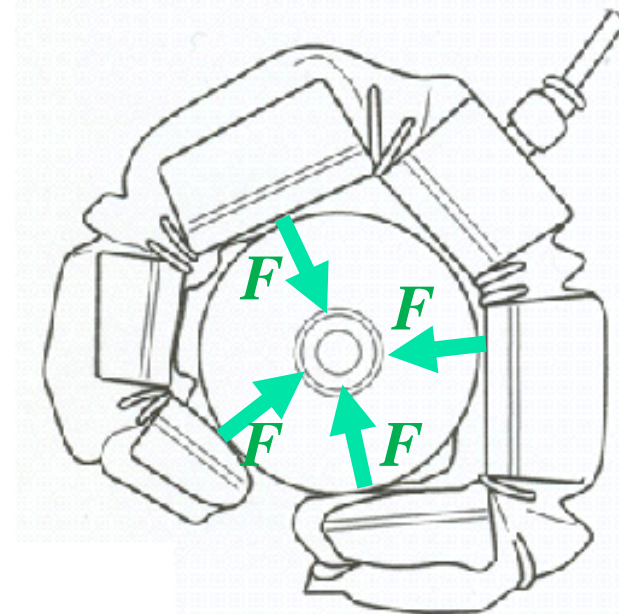
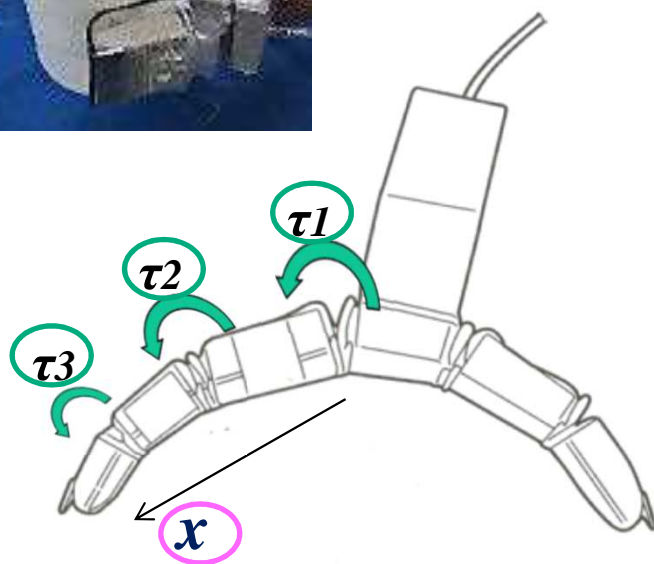
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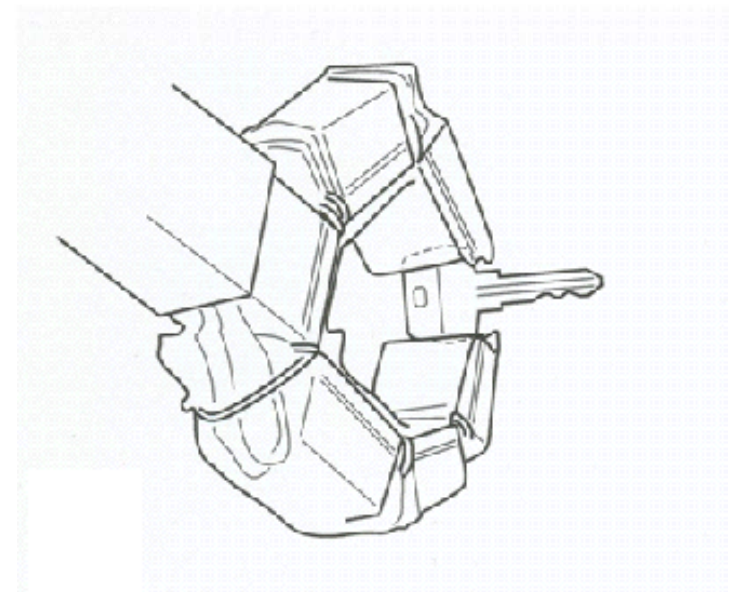
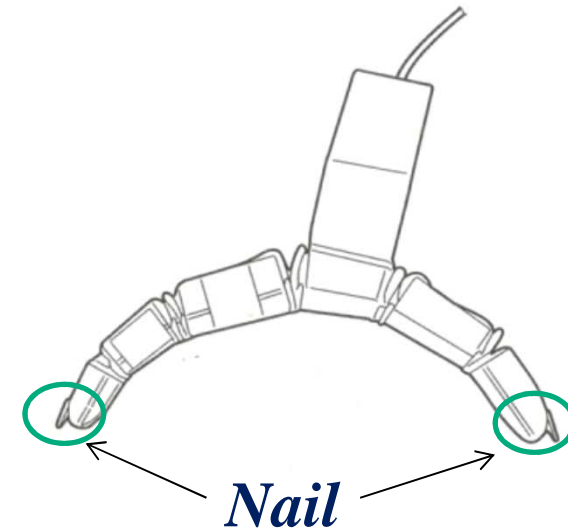
Polyurethane foam

V-open Drive

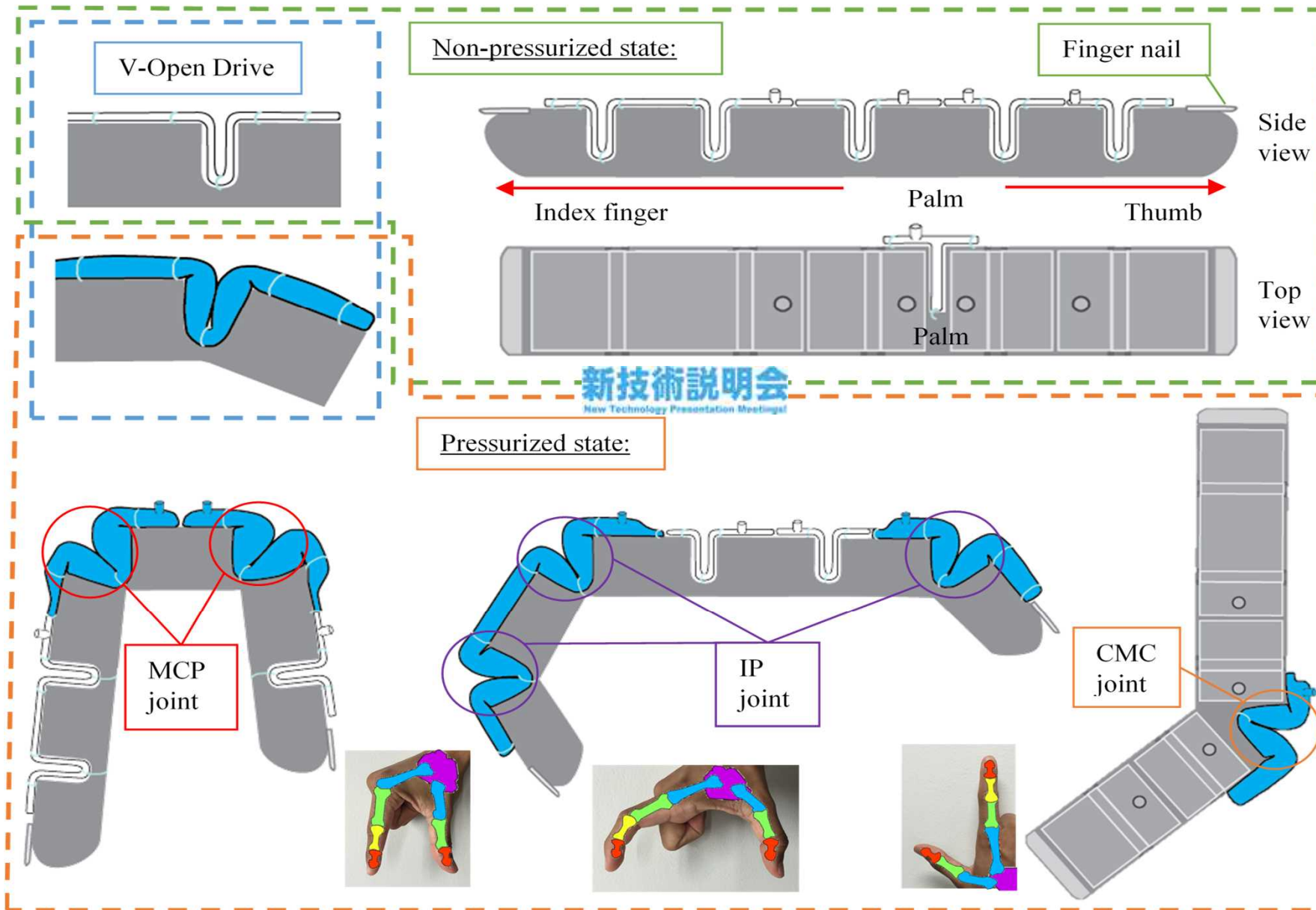
Uniformly Distributed Grasping Force



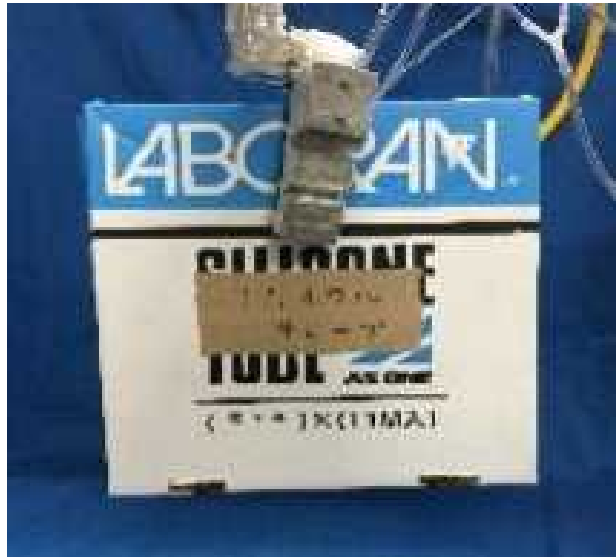
Grasping small and thin objects by nails



3 DOF Finger Structure



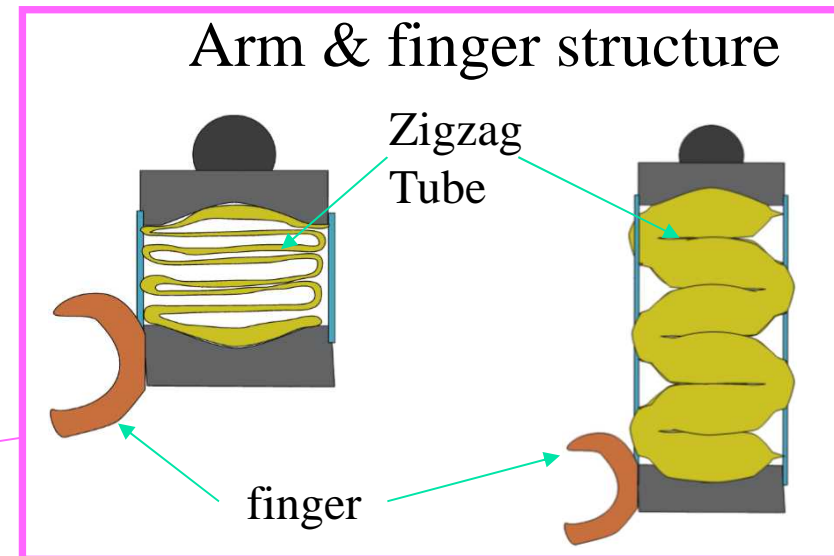
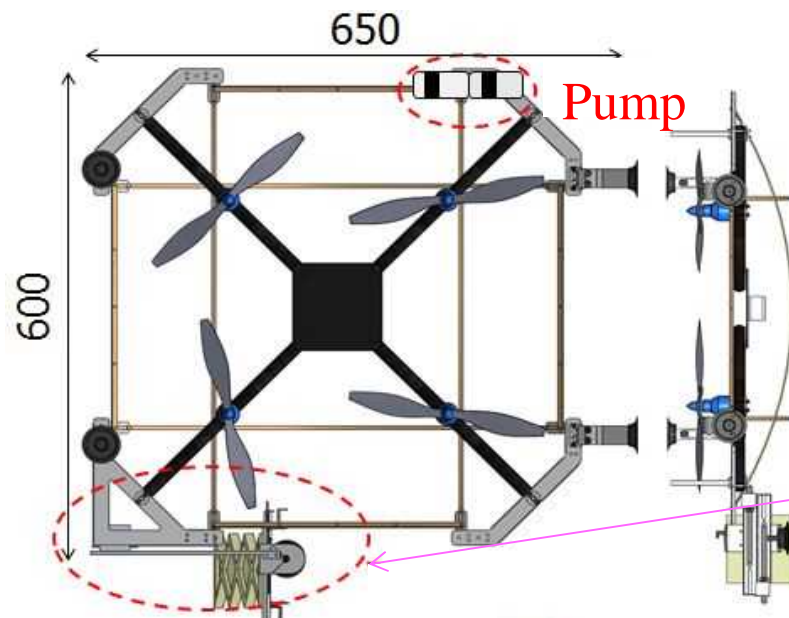
3 DOF Finger Structure



Round knob twisting by the aerial manipulator



Finger Aspect (from index to thumb)	Specification	
	Human Finger	Finger Actuator
Weight	85 gr	32 gr
Length size (flexion-extension)	159-174 mm	163 mm
Width size	14-17 mm	20 mm
Distributed Grasping Force (for door knob)	3 N	5 N
Pressure Input	-	60 – 100 kPa



本技術に関する知的財産権

- 発明の名称 : ロボットハンドおよび飛行ロボット
- 出願番号 : 特願2016-097190
- 出願人 : 東京工業大学
- 発明者 : 塚越秀行、ダメ トリ アシュリ

関連する知的財産権

- 特許4923239 流体アクチュエータ
- 特許5317096 物体把持装置
- 特許5692781 アクチュエータ

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