Modern Intelligent Hand Prosthetics

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***Abstract*— Hand Prosthetics.**

I. Introduction

Name	Developer	Year	Mass(g)	Size(mm) length x width x thickness	Number of joints	Degrees of freedom	Number of actuators	Actuator type
MyHand	SSSA	2017	478	200 x 84 x 56	10	4	3	Brushless DC Motor
Asto Hand v.1	Diponegoro University	2016	261	180 x 85 x 50	10	5	5	DC Motor
Bionic Hand	Atasoy et al.	2016	-	-	24	24	13	Brushless DC Motor
X-Hand	Xiong et al.	2016	-	human hand size	16	-	4	DC Motor
Six-DOF-Hand	Krausz et al.	2016	584	202 x 99 x 61	10	6	6	DC Motor
SoftHand Pro-D	Piazza et al.	2016	-	-	19	19	1	DC Motor

Name	Number of Fingers	Joints per Finger	Actuators integrated	Transmission system	Sensor system	Gripping force	Individual Finger Force	Joint Speed/Closing Time
MyHand	5	1/2	Yes	Geneva drive	EMG/automatic grasp control	-	31N/ 12N	160-250 $^\circ/s$
Asto Hand v.1	5	2/2	Yes	tendon spring	EMG	-	-	-
Bionic Hand	5	3/3	No	tendons	EMG	-	-	-
X-Hand	5	3/3	Yes	tendons	-	12.1N	-	1.2s
Six-Dof-Hand	5	2/2	Yes	gears/belts	EMG	-	4.12N	2.24 $rads/s$
SoftHand Pro-D	5	3/3	Yes	tendons	EMG	-	-	-