



COBOTS COMPARISON SHEET





ABB-YUMI



AUBO - OUR



BIONIC ROBOTICS -
BIOROB



BOSCH - APAS

Brand	ABB	AUBO	BionicRobotics	BOSCH
Model	IRB 1400 YuMi	i5	BioRob	APAS ASSISTANT
nb axis	2 x 7 axis	6 axis	4-5 axis	6 axis
Payload	0.5 kg	5 kg	0.8 kg	4 kg
Weight	38 kg	24 kg	6 kg	230 kg
Power to weight ratio	76	4.8	7.5	57.5
Speed	1.5 m/s	180 deg/s	n/a	2.3 m/s
Repeatability	+/-0.05mm	+/- 0.05 mm	+/- 0.2 mm	+/- 0.03 mm
Safety Range	PL b Cat B	PL d	TUV Certified	Contact less safety features, TUV Certified
Working Range	500 mm	880 mm	760 mm	911 mm
Targeted Application	Electronic assembly	Electronic Assembly, Machine Tending, Entertainment, Reserach	Pick & Place, Machine Tending, Product Testing, Laboratory	Handling, Tooling, Identification, Documentation
Vision & Sensors	Gripper with choice of fingers, suction cups and/or camera	none	Embedded Parrallel gripper	Universal 3-Finger gripper, 2D monochrome camera, 3D positioning camera.
Price	+/- 40,000 USD	18,000\$	+/- 33,000 USD	n/a
Lifespan		25000 h		



COMAU (italiens)



FANUC - CR 4iA



FANUC - CR 7iA



FANUC - CR 7iA/L

Brand	COMAU	FANUC	FANUC	FANUC
Model	AURA	CR-4iA	CR-7iA	CR-7iA/L
nb axis	6 axis	6 axis	6 axis	6 axis
Payload	110 kg	4 kg	7 kg	7 kg
Weight	685 kg	48 kg	53 kg	55 kg
Power to weight ratio	6.22	12	7.6	7.9
Speed	n/a	0.5 m/s	0.5 m/s	0.5 m/s
Repeatability	+/- 0.07 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.03 mm
Safety Range	Proximity and tactile sensors	Complying to ISO 10218-1, Soft external skin, Force-Torque Sensor at the base of the robot	Complying to ISO 10218-1, Soft external skin, Force-Torque Sensor at the base of the robot	Complying to ISO 10218-1, Soft external skin, Force-Torque Sensor at the base of the robot
Working Range	2210 mm	550 mm	717 mm	911 mm
Targeted Application	Large pick and place application, automotive industry	Machine Tending, Assembly, Adhesive Application, Product Testing	Machine Tending, Assembly, Adhesive Application, Product Testing	Machine Tending, Assembly, Adhesive Application, Product Testing
Vision & Sensors	Integrated vision system, Capacitive sensitive skin	Force-Torque Sensor at the base of the robot. Vision system option.	Force-Torque Sensor at the base of the robot. Vision system option.	Force-Torque Sensor at the base of the robot. Vision system option.
Price	80,000\$	42,500\$	45,700\$	48,000\$
Lifespan				



FANUC - CR 35iA



**F&P pPERSONAL
rBOTICS**



**F&P pPERSONAL
rBOTICS**



FRANKA

Brand	FANUC	F&P Personal Robotics	F&P Personal Robotics	Franka
Model	CR-35iA	Prob 2R 24V	Prob 2R 48V	Emika
nb axis	6 axis	6 axis	6 axis	7 axis
Payload	35 kg	3 kg	3 kg	3 kg
Weight	990 kg	20 kg	20 kg	18.5 kg
Power to weight ratio	28.3	6.7	6.7	6.2
Speed	0.25 m/s	160 deg/s	160 deg/s max	2000 mm/s
Repeatability	n/a	+/- 0.1 mm	+/- 0.1 mm	+/- 0.1 mm
Safety Range	Complying to ISO 10218-1, Soft external skin, Force-Torque Sensor at the base of the robot	Complying to ISO 12100 & ISO/TS 15066	Complying to ISO 12100 & ISO/TS 15066	PL d cat 3. (EN ISO 13849-1:2008)
Working Range	1813 mm	775 mm	775 mm	800 mm
Targeted Application	Machine Tending, Assembly, Adhesive Application, Product Testing	Personal Service Robotics, Education, Home Care	Assembly, electronics, light industrial applications	Industrial applications
Vision & Sensors	Force-Torque Sensor at the base of the robot. Vision system option.	P-Grip 2F, P-Grip V2, End Tool Adapter, USB Video Camera	P-Grip 2F, P-Grip V2, End Tool Adapter, USB Video Camera	2 Finger parrallel gripper, 2D Camera
Price	87,000\$	+/- 27,480 USD	+/- 27,480 USD	+/- 12,000 USD with all accessories
Lifespan		not specified		not specified



**KAWADA INDUSTRIES
- NEXTAGE**



KAWASAKI - DUARO



**KUKA - LBR
iiwa 7 R800**



**KUKA - LBR iiwa 14
R820**

Brand	Kawada Industries	KAWASAKI	KUKA	KUKA
Model	Nextage	duAro1 (WD002N)	LBR iiwa 7 R800	LBR iiwa 14 R820
nb axis	15 axes (6 for arms × 2, 1 for waist, 2 for neck,)	Horizontal Articulated 2 × 4 axis	7 axis	7 axis
Payload	1.5 kg per arm	2kg per arm	7 kg	14 kg
Weight	29 kg	200 kg	22 kg	30 kg
Power to weight ratio	9.7	50	3.1	2.1
Speed	300 deg/s max		n/a	n/a
Repeatability	+/- 0.03mm	+/- 0.05 mm	+/- 0.1 mm	+/- 0.15 mm
Safety Range	Each motor is limited to 80 W		Uses SafeOperation software, Complying to ISO 10218; ISO 12100; ISO 13849	Uses SafeOperation software, Complying to ISO 10218; ISO 12100; ISO 13849
Working Range	577 mm	760 mm	800 mm	820 mm
Targeted Application	Industrial applications	Assembly, Material Handling, Machine Tending, Material Removal	Machine tending, Product testing, Palletizing, Pick and Place	Machine tending, Product testing, Palletizing, Pick and Place
Vision & Sensors	2 Finger parallel gripper, 2D Camera, Stereo Vision	No sensor or accessories	Internal routing, Force Torque Sensor on each joints	Internal routing, Force Torque Sensor on each joints
Price	+/- 60,000 USD	+/- 25,000 USD	+/- 70,000 USD	+/- 70,000 USD
Lifespan	not specified	not specified	not specified	not specified



**LIFE ROBOTIS -
CORO**



MABI - SPEEDY 6



MABI - SPEEDY 12



**MOTOMAN /
YASKAWA - HC10**

Brand	Life Robotics	MABI Robotics	MABI Robotics	MOTOMAN / YASKAWA
Model	CORO	Speedy 6	Speedy 12	HC10
nb axis	6 axis	6 axis	6 axis	6 axis
Payload	2 kg	6 kg	12 kg	10 kg
Weight	26 kg	28 kg	35 kg	47 kg
Power to weight ratio	13	4.66	2.9	4.7 kg
Speed	2000 mm/s	275 deg/s max	275 deg/s max	not specified
Repeatability	+/- 1.0 mm	+/- 0.1 mm	+/- 0.1 mm	+/- 0.1 mm
Safety Range	Intresectly safe	not specified	not specified	Pending Approval for TUV certification, Designed to meet EN ISO 10218-1 Cat 3 PL d. EN ISO 13849:2008 PI d
Working Range	865 mm	800 mm	1250 mm	1200 mm
Targeted Application	Pick and Place, Cosmetics, Logistics, Food Industry	Palletizing, pick-and-place, assembly, bin picking	Palletizing, pick-and-place, assembly, bin picking	Material Handling, Machine tending, light assembly tasks
Vision & Sensors	No sensor or accessories	Force-torque sensor integrated, automatic tool changer, multifunctionnal handhold	Force-torque sensor integrated, automatic tool changer, multifunctionnal handhold	No sensor or accessories
Price	only available in Asia	n/a	n/a	48,000 USD
Lifespan	not specified	not specified	not specified	not specified



**MRK SYSTEM -
KR 5 SI**



**PRECISE
AUTOMATION - PAVP6**



**PRECISE
AUTOMATION - PF400**



**PRECISE
AUTOMATION - PP100**

Brand	MRK-SYSTEM GMBH	Precise Automation	Precise Automation	Precise Automation
Model	KR 5 SI	PAVP6	PF400	PP100
nb axis	6 axis	6 axis	4 axis (SCARA)	4 axis (Cartesian)
Payload	5 kg	2.5 kg	1 kg	2 kg
Weight	150 kg	28 kg	20 kg	20 kg
Power to weight ratio	30 kg	11.2	20	10
Speed	858 deg/s max	350 mm/s	700 mm/s	1500 mm/s
Repeatability	+/- 0.04 mm	+/- 0.02 mm	+/- 0.05 mm	+/- 0.1 mm
Safety Range	Tactile sensors (Cat. 0), Complying to ISO 10218, ISO/TS 15066	"All Precise collaborative robots have been measured by TUV and certified to exert forces that fall within the force guidelines for collaborative robots as defined by the recent ISO/TS 15066 Standard on Collaborative Robots"	"All Precise collaborative robots have been measured by TUV and certified to exert forces that fall within the force guidelines for collaborative robots as defined by the recent ISO/TS 15066 Standard on Collaborative Robots"	"All Precise collaborative robots have been measured by TUV and certified to exert forces that fall within the force guidelines for collaborative robots as defined by the recent ISO/TS 15066 Standard on Collaborative Robots"
Working Range	1423 mm	432 mm	576 mm	685 mm or 1270 mm
Targeted Application	Material handling, machine tending, pick-and-place	Industrial applications	Lab applications, mixed manufacturing assembly	Industrial applications
Vision & Sensors	Tactile sensors on outerskin of the robot.	not specified	not specified	not specified
Price	16,000 USD for UPDATE	not specified	not specified	not specified
Lifespan	not specified	not specified	not specified	not specified



Productive Robotics



**RETHINK ROBOTICS
- SAWYER**



**RETHINK ROBOTICS
-BAXTER**



STAUBLI

Brand	Productive Robotics	Rethink Robotics	Rethink Robotics	STÄUBLI
Model	OB7	Sawyer	Baxter	TX2-40
nb axis	7 axis	7 axis	7 axis	6 axis
Payload	5 kg	4 kg	2.2 kg per arm	1.7 kg
Weight	52 kg	19 kg	306 lbs w/ pedestral	29 kg
Power to weight ratio	10.4	4.75	69.5	17.05
Speed	2000 mm/s	n/a	n/a	n/a
Repeatability	+/- 0.1 mm	+/- 0.1 mm	not specified	+/- 0.02 mm
Safety Range	Pending approval	"Power and force limited compliant arm with series elastic actuators and embedded sensors"	"Power and force limited compliant arm with series elastic actuators and embedded sensors"	PL e Cat. 3 (According to ISO 10218-1)
Working Range	not specified	1260 mm	1210 mm per arm	515 mm
Targeted Application	Machien tending, product assembly, adhesive application, welding, painting, packaging, material handling	Machine tending, pick-and-place, palettizing, inspection	Machine tending, pick-and-place, palettizing, inspection	Assembly, inspection, measurment, glueing, machine tending
Vision & Sensors	Optional 2 finger gripper	Embedded Camera, Gripper and suction cup available	Embedded Camera, Gripper and suction cup available	No sensors or accessories
Price	25,000\$	40,000\$	30,000\$	n/a
Lifespan	not specified	35,000 h	35,000 h	n/a



STAUBLI



STAUBLI



STAUBLI



STAUBLI

Brand	STÄUBLI	STÄUBLI	STÄUBLI	STÄUBLI
Model	TX2-60	TX2-60L	TX2-90	TX2-90L
nb axis	6 axis	6 axis	6 axis	6 axis
Payload	3.5 kg	2 kg	7 kg	6 kg
Weight	51.4 kg	52.5 kg	114 kg	117 kg
Power to weight ratio	14.7	26.3	16.3	19.5
Speed	Max 8.4 m/s	Max 11.1 m/s	n/a	n/a
Repeatability	+/- 0.02 mm	+/- 0.03 mm	+/- 0.02 mm	+/- 0.02mm
Safety Range	PL e Cat. 3 (According to ISO 10218-1)	PL e Cat. 3 (According to ISO 10218-1)	PL e Cat. 3 (According to ISO 10218-1)	PL e Cat. 3 (According to ISO 10218-1)
Working Range	670 mm	920 mm	1000 mm	1200 mm
Targeted Application	Assembly, inspection, measurment, glueing, machine tending	Assembly, inspection, measurment, glueing, machine tending	Assembly, inspection, measurment, glueing, machine tending	Assembly, inspection, measurment, glueing, machine tending
Vision & Sensors	No sensors or accessories	No sensors or accessories	No sensors or accessories	No sensors or accessories
Price	34,000\$	34,000\$	n/a	n/a
Lifespan	n/a	n/a	n/a	n/a



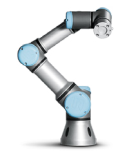
STAUBLI



TECHMAN
(TM Robotics)



TECHMAN
(TM Robotics)



UNIVERSAL
ROBOTS - UR3

Brand	STÄUBLI	Techman	Techman	
Model	TX2-90XL	TM5-700	TM5-900	UR3
nb axis	6 axis	6 axis	6 axis	6 axis
Payload	5 kg	6 kg	4 kg	3 kg
Weight	119 kg	22 kg	22.2 kg	11 kg
Power to weight ratio	23.8	3.7	5.55	3.66
Speed	n/a	Max 225deg/s	Max 225deg/s	1000mm/sec
Repeatability	+/- 0.02 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.1mm
Safety Range	PL e Cat. 3 (According to ISO 10218-1)	150 N maximum force applied by the robot. Compliant to ISO/TS 15066.	150 N maximum force applied by the robot. Compliant to ISO/TS 15066.	TUV Approved
Working Range	1450 mm	700 mm	920 mm	500 mm
Targeted Application	Assembly, inspection, measurment, glueing, machine tending	Electronic assembly, machine tending, pick and place	Electronic assembly, machine tending, pick and place	Lightweight assembly, dispensing, pick and place
Vision & Sensors	No sensors or accessories	Embedded vision system, optional 2 f inger parrallel gripper	Embedded vision system, optional 2 finger parrallel gripper	n/a
Price	n/a	n/a	n/a	28,000 USD
Lifespan	n/a	n/a	n/a	n/a



**UNIVERSAL
ROBOTS - UR5**



**UNIVERSAL
ROBOTS - UR10**

Brand		
Model	UR5	UR10
nb axis	6 axis	6 axis
Payload	5 kg	10 kg
Weight	18.4 kg	28.9 kg
Power to weight ratio	3.68	2.89
Speed	1000mm/sec	1000mm/sec
Repeatability	+/- 0.1mm	+/- 0.1mm
Safety Range	TUV Approuved	TUV Approuved
Working Range	850 mm	1300 mm
Targeted Application	Machine Tending, Pick-and-place, product testing, dispensing, assembly	Machine Tending, Pick-and-place, product testing, dispensing, assembly
Vision & Sensors	n/a	n/a
Price	35,000 USD	45,000 USD
Lifespan	n/a	n/a

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ABOUT ROBOTIQ

At Robotiq, we free human hands from repetitive tasks.

We help manufacturers overcome their workforce challenges by enabling them to install robots on their own. They succeed with our robotic plug + play tools and the support of our automation experts community.

Robotiq is the humans behind the robots: an employee-owned business with a passionate team and an international partner network.



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