



**GUIDE FOR COLLABORATIVE ROBOTS
BY LOGICBUS**



COLLABORATIVE ROBOTS

At present, a new concept has been generated in the world of robotics, and today is present in the industrial world, it is the Cobots, better known as Collaborative Robots, this generation of robotics that integrates with humans in the manufacturing environment, allowing to work in a close manner to the staff and with the support of these robots without security restrictions required in typical applications of industrial robotics.

These new robots have allowed robotic automation technology to be more accessible to small and medium enterprises, achieving greater flexibility in automation, since each robot has a task that are developed in the industry, such as the task of product handling, pick & place (pick and place), pakaging (packaging), etc.



The foundation of the Collaborative Robots is to add intelligence features that allow the machine to understand what is happening in its environment, to be able to share tasks with people just as if they were one more person. Avoid collision, stop when a presence is detected and continue when this person stops interfering with the robot's path.



Automation



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Model	Features
 <p>Cobot-SCR3</p>	<p>Payload: 5 kg Weight: 33.8 kg Range of movement: 800 mm Repeatability (GB / T 12642-2001 eqv ISO 9283): 0.02 mm Degrees of freedom: 7 TCP maximum speed: 1.0 m / s IP Classification: IP54 Operating temperature 0 °C - 45 °C Tool interface: GB / T 14468.1-50-4-M6, (eqv ISO 9409-1) Dimensions of the control cabinet: 500mmx460mmx190mm I / O: Enclosure: 14Dig I / O 24V 1st, Flange mounting: 2 Dig I / O 24V 1A Power supply: 230VAC (-15% ~ + 10%), 50-60Hz Power consumption: Typical 400W Visual resolution (several options available): 1.3 megapixels (B & W)</p>
 <p>Cobot-SCR5</p>	<p>Payload: 3 kg Cobots Weight: 18.6 kg Range of movement: 600 mm Repeatability (GB / T 12642-2001 eqv ISO 9283): +/- 0.02 mm Degrees of freedom: 7 Maximum TCP speed: 0.8 m / s IP Classification: IP54 Operating temperature: 0 °C - 45 °C Installation method: Any address Tool interface: GB / T 14468.1-50-4-M6 (eqv ISO 9409-1) Dimensions of the control cabinet: 500mmx460mmx190mm I / O: Cabinet: 14Dig I / O 24V 1A Mounting flange: 2 Dig E / S 24V 1A Power supply: 230VAC (-15% ~ + 10%), 50-60Hz Power consumption: Typical 250 watts Visual resolution (several options available): 1.3 megapixels (B & W)</p>

 <p>DUCO-DSCR3</p>	<p>Payload: 6 kg (3 kg × 2) Degrees of freedom: 16 (ARM 7 × 2, HEAD 2 (optional)) Repeatability (GB / T 12642-2001 eqv ISO 9283): ± 0.02mm Range of movement: 600 mm / single arm IP Classification: IP 30 Control cabinet: Integrated inside the robot Operating temperature: 0 °C - 45 °C Installation: Desktop installation Power supply: 230 VAC 50 ~ 60 HZ Maximum TCP speed: 0.8 m / s Weight: 70kg Tool interface: GB / T14468.1-50-4-M6 (ISO 9409-1) The smaller size: 557 * 470 mm</p>
 <p>DUCO-DSCR5</p>	<p>Payload: 10 kg (5 kg × 2) Degrees of freedom: 20 (ARM 7 × 2, HEAD 6 (optional)) Repeatability (GB / T 12642-2001 eqv ISO 9283): ± 0.02mm Range of movement: 800 mm / single arm IP Classification: IP 30 Control cabinet: Integrated inside the robot Operating temperature: 0 °C - 45 °C Power supply: 230 VAC 50 ~ 60 HZ TCP maximum speed: 1 m / s Weight: 200kg Tool interface: GB / T14468.1-50-4-M6 (ISO 9409-1) Installation: movable</p>
 <p>HSCR5</p>	<p>Size: 1100mmx620mmx800mm Total Weight: 320 kg Working speed: Grip speed: 0-1 m / s Movement speed: 0-45 m / min Workload: Grabbing load: 5kg Mobile load: 80kg Safety device: emergency stop, manual / detection of the laser sensor, collision detection Work precision: ± 0.5mm Parking accuracy: ± 10mm Direction of movement: Advance / rewind / turn Navigation: Laser / Magnetic Power supply: 60AhDC lithium battery, 48V Duration: 5 hrs Charging mode: Auto loading / manual quick change</p>



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XCR20-1100



Payload: 20kg
 Body weight: 50kg
 Distance: 1100 mm
 Repeatability: ± 0.05 mm
 Degrees of freedom: 6
 TCP Max Speed: 1 m / s
 IP Classification: 54
 Ambient temperature: 0 ° C - 45 ° C
 Installation: any address
 Tool interface: GB / T 14468.1-50-4-M6 (eqv ISO 9409-1)
 Control cabinet size: 650mmx650mmx230mm
 I / O: Control cabinet: 14 Dig I / O, 24 V, 0.5 A, Final connection: 2 Dig I / O, 24V, 1st
 Power supply: 230VAC (-15% ~ + 10%), 50-60Hz
 Power consumption: Typical 600W power consumption



HCR20

Vehicle size: 1280mmx600mmx700mm
 Gross weight: 550kg
 Speed:
 TCP cobble speed: 0-1 m / s
 Movement speed: 0-1 m / s
 Useful load:
 Cobots payload: 20kg
 Vehicle payload: 100kg
 Safety device: Emergency button / Laser collision detection / Collision collision / other
 Operating accuracy: ± 0.05 mm
 Parking accuracy: ± 10 mm
 Direction of movement: Forward / Reverse / Turning
 Navigation: Natural / Laser / Multi-type
 Battery: Lithium Battery, 48VDC
 Full charge duration: 5HRS
 Loading: Manual / automatic battery change, automatic charging



 <p>PF3400</p>	<p>J1 (Z) axis: 400 mm standard, 750 mm or 1160 mm options available J2 axis: +/- 90 degrees J3 axis: +/- 167 degrees J4 / Theta axis: +/- 970 degrees with servo gripper, + 110 / -470 with mounting flange Maximum acceleration: 0.2G with 1 kg payload Maximum speed: 500 mm / sec in Z, 1,500 mm / sec in horizontal plane with 1 kg payload Weight: 20 kg for the travel version of 400 mm. Repeatability: +/- 50 µm Maximum speed: 700 mm / sec Dimensions: Travel version M: 1.37 m long x 0.23 m deep x 0.12 m high 1.5 M travel version: 1.87 m long x 0.23 m deep x 0.12 m high Travel version 2 M: 2.37 m long x 0.23 m deep x 0.12 m high</p>
 <p>PP100</p>	<p>X axis: 500 mm standard, 1090 mm option available in XYZ version Y axis: standard 350 mm Z axis: 260 mm standard in XYZ version 229 mm standard in the XZ version Theta axis: +/- 270 degrees Maximum acceleration: 1.0G with payload of 500 gm Maximum speed: 1,500 mm / sec in X / Y Power required: Input range: 90 to 264 VAC, single phase, 50-60 Hz, 365 watts maximum Weight: 20 kg for the travel version of 635 mm, 32 kg for the travel version of 1270 mm</p>





PAVP6



J1 axis: +/- 160 °
J2 axis: +/- 120 degrees
J3 axis: +/- 160 + 19 degrees
J4 axis: +/- 160 degrees
J5 axis: +/- 120 degrees
J6 axis: +/- 360 degrees
Repeatability: 20 microns in the center of the tool flange
General communications: RS-232 channel, 100 Mbps Ethernet port
Operator interface: The web-based operator interface supports local or remote control through the browser connected to the embedded web server
Weight: 17 kg typical



PAVS6

J1 axis: +/- 170 degrees
J2 axis: + 135 / -100 degrees
J3 axis: + 166 / -119 degrees
J4 axis: +/- 190 degrees
J5 axis: +/- 120 degrees
J6 axis: +/- 360 degrees
Repeatability: 30 microns in the center of the tool flange
General communications: RS-232 channel, 100 Mbps Ethernet port
Operator interface: The web-based operator interface supports local or remote control through the browser connected to the embedded web server
Weight: 36 kg typical



 RG2-GRIPPER	Technical data	Min	Typical	Max	Units
	Total stroke (adjustable)	0	-	110	mm
	Resolution of the position of the finger	-	0,1	-	mm
	Repeat accuracy	-	0,1	0,2	mm
	Recoil	0,2	0,4	0,6	mm
	Gripping force (adjustable)	3	-	40	N
	Precision gripping force	± 0,05	± 1	± 2	N
	Operating voltage *	10	24	26	V DC
	The energy consumption	1,9	-	14,4	W
	Maximum current	25	-	600	Ma
	Operating ambient temperature	5	-	50	°C
	Storage temperature	0	-	60	°C
	Product Weight	-	0.65	-	KG
 RG6-GRIPPER	Technical data	Min	Typical	Max	Units
	Total stroke (adjustable)	0	-	160	mm
	Resolution of the position of the finger	-	0,15	-	mm
	Repeat accuracy	-	0,15	0,3	mm
	Recoil	0,4	0,7	01	mm
	Gripping force (adjustable)	25	-	120	N
	Precision gripping force	± 2	± 5	± 10	N
	Operating voltage *	10	24	26	V DC
	The energy consumption	1,9	-	14,4	W
	Maximum current	25	-	600	Ma
	Operating ambient temperature	5	-	50	°C
	Storage temperature	0	-	60	°C
	Product Weight	-	1	-	KG



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 <p>RG2-FT</p>	Technical data	Min	Typical	Max	Units
	Total stroke (adjustable)	0	-	100	MM
	Resolution of the position of the finger	-	0,1	-	MM
	Gripping force (adjustable)	3	-	40	N
	backlash kickback	0,2	0,4	0,6	MM
	Operating ambient temperature	5	-	50	°C
	Product Weight	-	0.77	-	KG
	The energy consumption	6.5	-	22	W
	Detection range	0	-	100	MM
	Precision	-	2	-	MM
	Non-linearity *	-	12	-	%


 <p>GECKO-GRIPPER</p>	Material of the piece	Polished steel	Acrylic	Glass	Sheet metal
	Maximum payload (x2 safety factor)	4.1kg	4.1kg	3.3kg	3.1kg
	Maximum payload with cleaning	1.6kg	1.6kg	1.3kg	1.3kg
	Preload is required for maximum adhesion	125 N			
	Detachment time	500ms			
	Do you have a part in the loss of power?	Si			
	Change interval	50,000 a 100,000 ciclos			
	Autonomous cleaning system.	Piezoelectric			
	Minimum execution time for cleaning	1 second			
	Self-cleaning cleaning interval and% recovery.	15 sec: 3% / 2 min: 5% / 15 min: 15% (max)			
	Robotic cleaning system	Silicone roller			
	Robotic cleaning interval and% recovery.	Variable / 100%			

 <p>HEX-H</p>	Type of sensor	6-axis force / torque sensor			
	Dimensions (Height x Diameter)	37.5 x 70 mm			
	Weight (with built-in adapter plates)	245 g			
		Fxy	Fz	Txy	Tz
	Nominal capacity (N.C)	200N	200N	20 Nm	13 Nm
	Deformation of a single axis to N.C (typical)	± 0.6 mm	± 0.25 mm	± 2 °	± 3.5 °
	Single axis overload	500%	400%	300%	300%
	Noise signal 2 (typical)	0.1N	0.2N	0.006Nm	0.002Nm
	Noise-free resolution (typical)	0.5N	1N	0.036 Nm	0.008Nm
	Large-scale non-linearity	< 2%	< 2%	< 2%	< 2%
	Hysteresis (measured on the Fz axis, typical)	< 2%	< 2%	< 2%	< 2%
	Crosstalk (typical)	< 5%	< 5%	< 5%	< 5%
	Working temperature range	0 C° / +55 °C			
	Power requirements	Input range DC 7-24V / 0.8 W			
	Mounting screws	5 x M4 X 6 mm 1 x M4 x 12 mm (for cable support) ISO14581			

 <p>HEX-E</p>	Type of sensor	6-axis force / torque sensor			
	Dimensiones (Altura x Diámetro)	37.5 x 70 mm			
	Peso (con placas adaptadoras incorporadas)	245 g			
		Fxy	Fz	Txy	Tz
	Capacidad nominal (N.C)	200N	200N	10 Nm	6.5 Nm
	Deformación de un solo eje a N.C (típico)	± 1.7 mm	±0.3 mm	±2.5 °	±5 °
	Sobrecarga de un solo eje	500%	400%	300%	300%
	Señal de ruido 2 (típico)	0.035N	0.15N	0.002Nm	0.001Nm
	Resolución libre de ruido (típica)	0.2N	0.8N	0.010 Nm	0.002Nm
	No linealidad a gran escala	< 2%	< 2%	< 2%	< 2%
	Histéresis (medida en el eje Fz, típico)	<2%	< 2%	< 2%	< 2%
	Diafonía (típico)	< 5%	< 5%	< 5%	< 5%
	Rango de temperatura de trabajo	0 C° / +55 C°			
	Requisitos de energía	Input range DC 7-24V / 0.8 W			
Tornillos de montaje	5 x M4 X 6 mm 1 x M4 x 12 mm (for cable support) ISO14581				

 <p>OMD-30-SE-100N</p>	Type of sensor	3-axis force sensor		Units
	Dimensions (H x W x L)	17 x 25 x 25		[mm]
	Weight with 1m cable (without)	23 (11)		[g]
		Compression fz	Fxy	
	Nominal capacity (N.C.)	100	± 25	[N]
	Typical deformation	3	± 2.5	[mm]
	Single axis overload	200%	200%	-
	Large-scale non-linearity	2%	2%	-
	Resolution	2.5	2	[mN]
	Deformation of a single axis in N.C	3	± 2.5	[mm]
	Crosstalk (typical)	< 5%	-	-
Hysteresis (measured on the Fz axis, typical)	< 2%	-	-	
Working temperature range	-40 / +80		[°C]	
Power requirements	0.24		[w]	
 <p>OMD-20-SE-40N</p>	Type of sensor	3-axis force sensor		Units
	Dimensions (H x W x L)	17 x 25 x 25		[mm]
	Weight with 1m cable (without)	23 (11)		[g]
		Compression fz	Fxy	
	Nominal capacity (N.C.)	100	± 25	[N]
	Typical deformation	3	± 2.5	[mm]
	Single axis overload	200%	200%	-
	Large-scale non-linearity	2%	2%	-
	Resolution	2.5	2	[mN]
	Deformation of a single axis in N.C	3	± 2.5	[mm]
	Crosstalk (typical)	< 5%	-	-
Hysteresis (measured on the Fz axis, typical)	< 2%	-	-	
Working temperature range	-40 / +80		[°C]	
Power requirements	0.24		[w]	

 OMD-10-SE-10N	Type of sensor	Sensor de fuerza de 3 ejes		Units
	Dimensions (H x W x L)	10 x 11 x 15		[mm]
	Weight with 1m cable (without)	11.7 (1.5)		[g]
		Compression fz	Fxy	
	Nominal capacity (N.C.)	10	± 2.5	[N]
	Typical deformation	1.1	± 1	[mm]
	Single axis overload	300%	300%	-
	Large-scale non-linearity	2%	5%	-
	Resolution	2.5	± 2.5	[mN]
	Deformation of a single axis in N.C	0.8	± 1	[mm]
	Crosstalk (typical)	< 5%	-	-
	Hysteresis (measured on the Fz axis, typical)	< 2%	-	-
	Working temperature range	-40 / +80		[°C]
Power requirements	0.24		[w]	
 OMD-20-FE-200N	Type of sensor	3-axis force sensor		Units
	Dimensions (H x W x L)	10 x 11 x 15		[mm]
	Weight with 1m cable (without)	11.7 (1.5)		[g]
		Compression fz	Fz Tension	Fxy
	Nominal capacity (N.C.)	200	100	± 20
	Typical deformation	1.2	1	± 1.5
	Single axis overload	200%	200%	200 %
	Large-scale non-linearity	2%	2%	2 %
	Resolution	12.5	12.5	2.1
	Deformation of a single axis in N.C	1.2	1	± 1.5
	Crosstalk (typical)	< 5%		-
	Hysteresis (measured on the Fz axis, typical)	< 2%		-
	Working temperature range	-40 / +80		[°C]
Power requirements	0.24		[w]	

 VG10-VACUUM-GRIPPER	Technical data	Min	Typical	Max	Units
	Empty		5%	-	80%
		-0.05	-	-0.810	[Bar]
Air flow		1.5	-	24	[inHg]
		0	-	12	[Nl/min]
Power supply		20.4	24	18.8	[Volts]
Current consumption *		50	60	1500	[mA]
Operating temperature		0	-	50	[°C]
		32	-	122	[°F]
Distance		32	-	358	[mm]
		1.26	-	14.09	[in]
Adjustable arms		0	-	270	[°]
Holding the torsion arms		-	6	-	[Nm]
Useful load		0	-	10	[kg]
		0	-	22	[lb]
Suction cups		1	-	16	[pcs.]
Grip time		-	0.35	-	[s]
Release time		-	0.20	-	[s]
Foot-inch-foot		-	1.40	-	[s]



QUICK-CHANGER

Technical data	Min	Typical	Max	Units
Permissible force	-	-	400*	[N]
Torque allowed	-	-	50*	[Nm]
Rated payload	-	-	10	[kg]
	-	-	22	[lbs]
Weight (robot part)	-	0.062	-	[kg]
	-	0.137	-	[lbs]
Weight (tool-part)	-	0.140	-	[kg]
	-	0.308	-	[lbs]
Combined weight	-	0.202	-	[kg]
	-	0.445	-	[lbs]
Combined height	-	24.10	-	[mm]
	-	0.95	-	[in]
Difference of angle	-	22.5	-	[Deg.]
	-	0.3927	-	[Rad.]
Repeatability	-	-	±0.02	[mm]
Tool change	-	5.000	-	[cycles]
Robot operation	10	-	-	[M cycles]
Permissible force	-	-	400*	[N]



DUAL GRIPPER

Both the RG2 and the RG6 are available in a double clamp configuration. This allows two clamps to be installed on the same robotic arm, even without additional cables. The two clamps work as independent clamps.

The dual configuration allows the robot arm to perform more complex tasks while significantly increasing productivity, simply by being able to handle more objects at the same time. It also allows the user to adapt the configuration to the application, instead of requiring changes in the application to accommodate the automation.



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