OMRON

PICK & PLACE SOLUTIONS

» SCARA series expanded with new belt-less models

» NJ Machine Controller with new robotics algorithms

» Wide range of Delta robots

Delta and SCARA solutions

With more than 50 years experience in machine automation and with special focus on the Packaging industry, we offer a new wide range of solutions ideal for Pick & Place applications.

The new solutions centred on Delta robots allow you to build very high through-put machines that handle more than one hundred picking operations per minute.

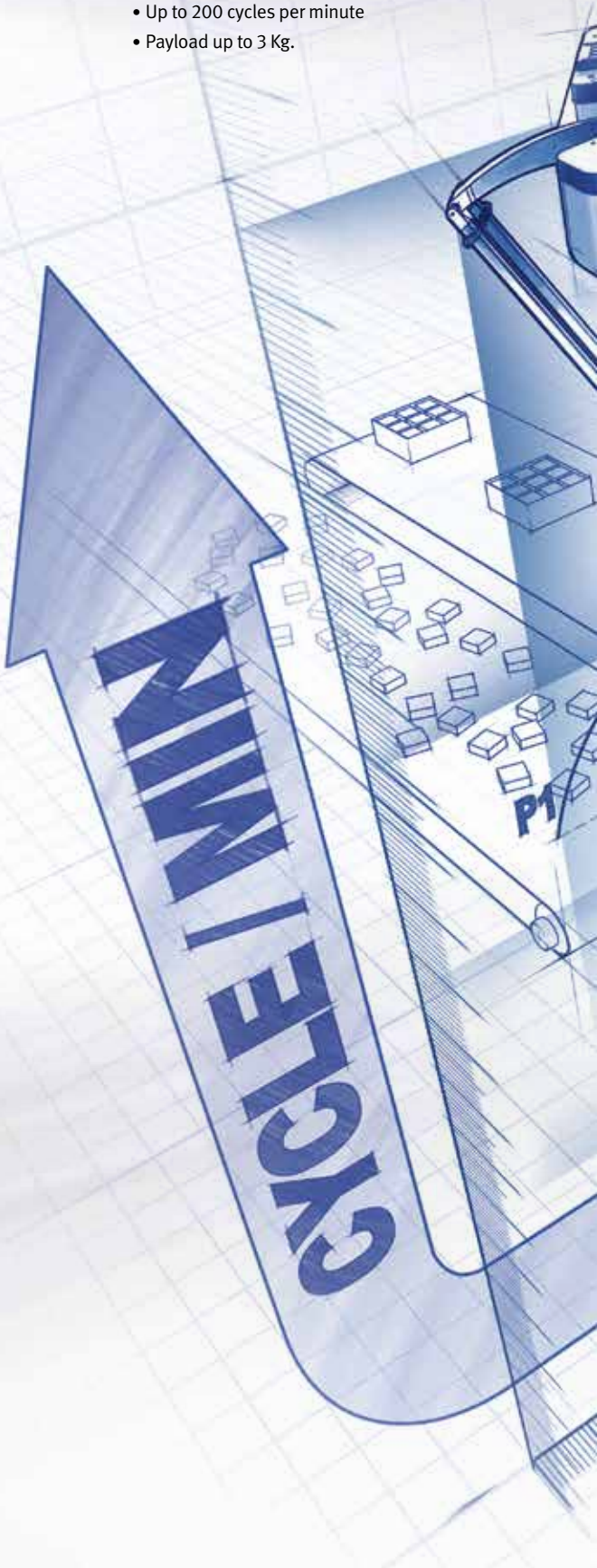
With more than 70 robot models, the SCARA based solutions are excellent when you face heavy part handling in combination with high speed cycles.

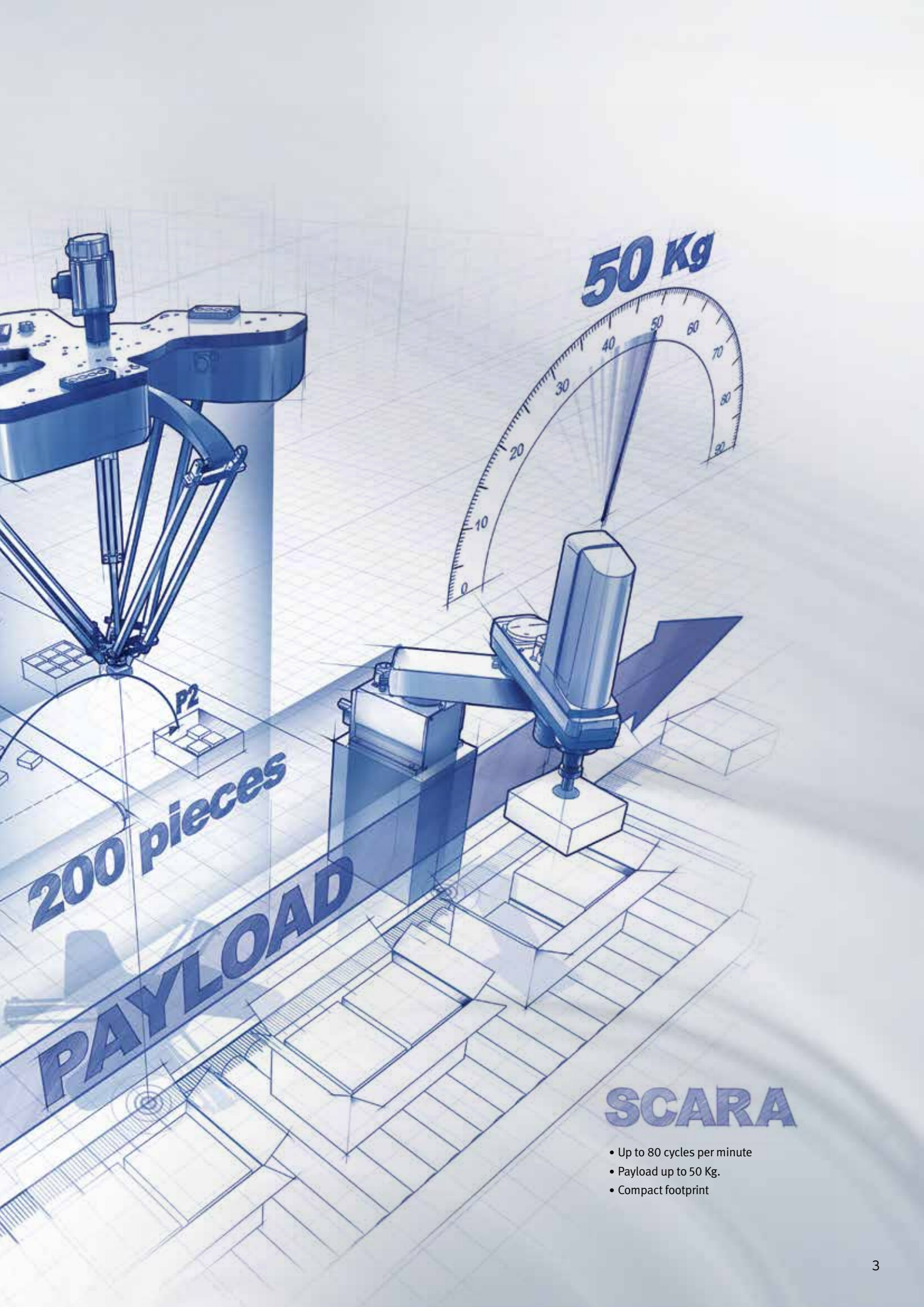
All the Omron Pick & Place solutions are fully integrated with our wide product portfolio making the modular design of your machines even easier. The high performance and reliability of our products represent the cornerstone of our mechatronics solutions, that can also be provided with advanced vision systems to detect the positions of the products to be handled and to inspect them simultaneously.

The vision systems have been specially designed and optimised for Pick & Place applications. The FQ-M and FH vision systems provide seamless integration with the Omron automation architecture and implement new algorithms that are able to detect the positions of multiple pieces in the field of view in a very short time.

DELTA

- Up to 200 cycles per minute
- Payload up to 3 Kg.





SCARA

- Up to 80 cycles per minute
- Payload up to 50 Kg.
- Compact footprint

Delta Robot Solution

The fastest picking system integrated in the Sysmac platform

The combination of high performance servo motors with the kinematics of Delta robots, allows you to achieve the maximum throughput in your Pick & Place applications. The NJ Robotics controller is able to keep control of all motion devices in the machine, including single axis, simple groups of axes and robot control, by providing independent or synchronized movements.

The synchronization with the multiple conveyors can be fully programmed thanks to a powerful command developed specially for Pick & Place applications that use a Delta robot.

FQ-M Vision sensor

Benefits

- Robot control integrated in the NJ Robotics controller
- Control of up to 8 robots by one controller
- High through-put can be achieved by using the Delta robot, more than 200 cycle/min per robot

Washdown Delta Robot Series

Washdown Delta robot

- Rated working range: Ø 1100 x 450 mm
- Max. Payload: 3 Kg
- Cycle time 25/305/25 mm (0.1 Kg): Up to 150 cycle/min

Washdown Mini Delta robot

- Rated working range: Ø 500 x 155mm / Ø 450 x 135mm (with rotational axis)
- Max. Payload: 1Kg
- Cycle time 25/305/25mm (0.1Kg): Up to 200 cycle/min.

Accurax G5 Servo motors

- High frequency response of 2 kHz
- 17 bit absolute encoder
- Low cogging torque

NJ Robotics

NJ Robotics

Robot	Cycle time
8 Delta	2 ms
4 Delta	1 ms

Delta Robot Series

Delta robot XL

- Rated Working range: ø 1300 x 400 mm
- Max.Payload: 2Kg
- Cycle time 25/305/25 mm (0.1 Kg): Up to 120 cycle/min.
- IP65

Delta robot

- Rated working range: Ø 1100 x 400 mm
- Max. Payload: 2Kg
- Cycle time 25/305/25mm (0.1Kg): Up to 150 cycle/min.

Mini Delta robot

- Rated working range: Ø 500 x 155mm / Ø 450 x 135mm (with rotational axis)
- Max. Payload: 1Kg
- Cycle time 25/305/25mm (0.1Kg): Up to 200 cycle/min.

Delta Robot Solution

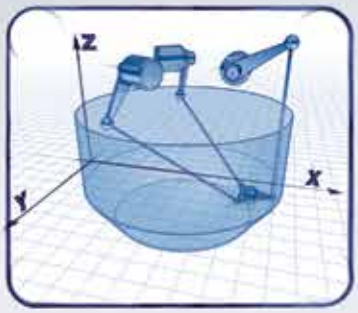
The NJ Machine Controller enhanced with robotics functionality

Advanced robotics functionality integrated in the NJ machine controller fully operates up to 8 robots within 2 msec. This system responds to the most demanding Pick & Place applications even at variable conveyor speed conditions. The latest control algorithms developed in the NJ reduce vibrations. These ensure the smoothest TCP trajectories when handling the required products at higher through-put.

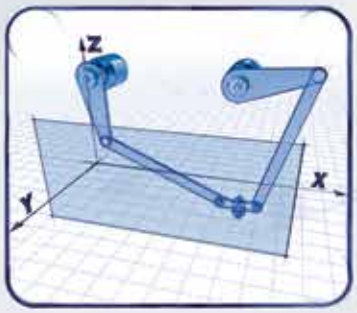
NJ Robotics CPU

Delta Robot Kinematics

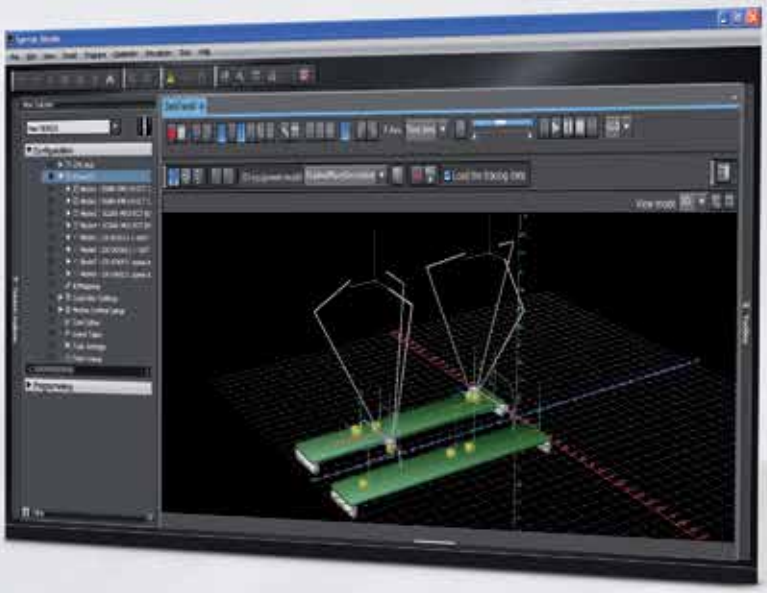
- Delta-3/3R and Delta-2 kinematics supported
- Rotational axis for Delta-3R can be controlled separately or embedded into the Delta kinematics (4 x 4 matrix)
- Automatic workspace check
- Ability to control Omron's robots as well as 3rd party mechanics



Delta -3



Delta -2



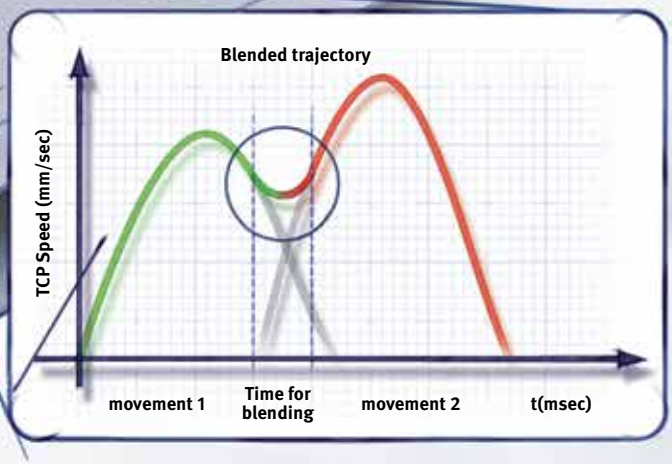
Sysmac Studio 3D simulation

- Reducing commissioning time has never been easier... with the 3D simulator integrated in the Sysmac Studio, visualizing and reproducing the Delta robot trajectory is possible through the offline programming tool

Conveyor tracking function with position offset option

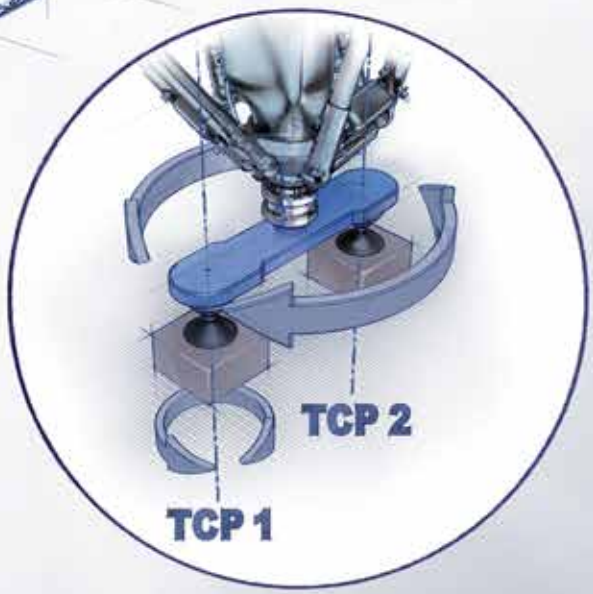
- Possibility of overriding the robot's trajectory while already synchronized with the conveyor
- This function allows pre-defined patterns (as shown by the figure on the right) to be reproduced on the robot's trajectory and applied to the desired product
- Combined with the Omron's new FH vision system, patterns captured with a camera can immediately be generated on the robot's trajectory giving the user complete flexibility on the manufacturing process

PATENT PENDING



Smothness transition modes

- Smoother transition modes achieved by merging the robotics commands to ensure a non-stop Pick & Place application
- The system calculates the smoothest overlap to increase through-put and efficiency according to the distance or time set by user
- Up to 8 commands can be buffered



Multiple TCP's Managements

- Possibility to manage up to 16 diferent tools per robot
- Rotation around the TCP - Tool Center Point - varies from a range of diverse easily programmable options adjusting to the application... i.e. shortest path, fixed directions, etc.

Delta Robot Solution

The NJ Robotics controller represents the core of this system architecture and is based on the EtherCAT bus, providing the highest motion performance for demanding picking applications. The Delta robot arms use the G5 servo motors to reduce the settling time thanks in part to the high frequency response of 2Khz of this high-end servo model , representing the best choice for positioning tasks. The FQ-M vision sensor is designed for motion applications and is able to detect the position of several pieces moving on a conveyor, in a very short time in order to increase the overall through-put of the machine.

Product overview

Robot

Delta Robot Series

Specifications

- Up to 200 cycles per minute
- Model Range from 450 to 1300 mm
- Payload range: 1 to 3 Kg
- IP class range: IP65, IP67 hygienic design

Reference list	Description
R6Y31110H03067NJ5	Washdown Delta robot 3 axes + 1 rot. axis with high inertia
R6Y31110L03067NJ5	Washdown Delta robot 3 axes + 1 rot. axis
R6Y30110S03067NJ5	Washdown Delta robot 3 axes
CR_UGD4MINI_R_TS	Washdown Mini Delta robot 3 axes + 1 rot. axis
CR_UGD4MINI_NR_TS	Washdown Mini Delta robot 3 axes
CR_UGD4_XL_R	Delta robot XL 3 axes + 1 rot. axis
CR_UGD4_XL_NR	Delta robot XL 3 axes
CR_UGD4_R	Delta robot 3 axes + 1 rot. axis
CR_UGD4_NR	Delta robot 3 axes
CR_UGD4MINI_R	Mini Delta robot 3 axes + 1 rot. axis
CR_UGD4MINI_NR	Mini Delta robot 3 axes

Controller

SYSMAC
always in control

NJ Robotics

- Up to 64 axes motion control
- Scalable control: CPUs for 16, 32 and 64 axes
- Up to 8 Delta robots
- EtherCAT and EtherNet/IP ports embedded
- Conforms to IEC 61131-3 standards

Reference list	Description
NJ501-4500	64 axes
NJ501-4400	32 axes
NJ501-4300	16 axes
NJ501-4310*	16 axes

* The NJ501-4310 CPU only supports one Delta robot.

Servo system

Accurax G5 servo system

- High frequency response of 2 kHz
- Safety conforming to ISO13849-1
- Advanced tuning algorith
- Delta robot: 1.5 kW servo drive
- Mini Delta robot: 400 W servo drive

Accurax G5 servo motor

Mini Delta

- 17 bit absolute encoder
- 230 VAC 400W servo motor with brake
- Low cogging torque

Delta

- 17 bit absolute encoder
- 230 VAC 1 kW servo motor with brake for the arms
- 230 VAC 50, 100 or 1000 W servo motors for the rotational axis
- Low cogging torque

Vision

FQ-M

- Camera, vision and connectivity in one
- Compact vision sensor
- Designed for high speed pick and place
- Encoder tracking and smart calibration function
- Fast and powerful object recognition

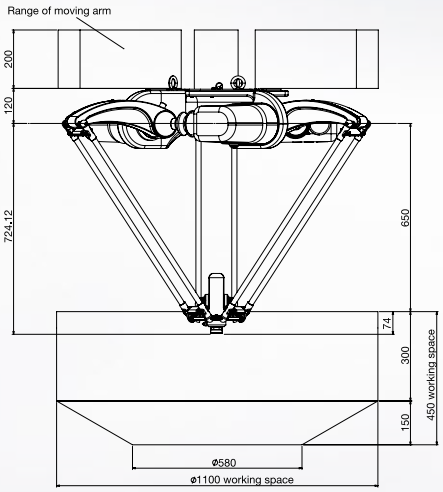
FH

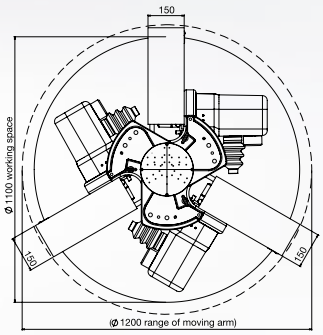
- Powerful 4-core i7 parallel processor
- High speed CMOS camera
- Up to 8 high resolution cameras
- Advanced shape search technology

Note: Please contact your OMRON representative for detailed specs and ordering information.

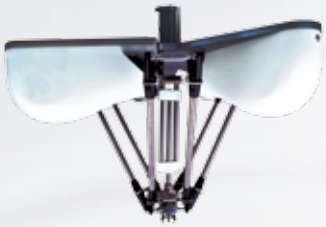
Washdown Delta Robot Series

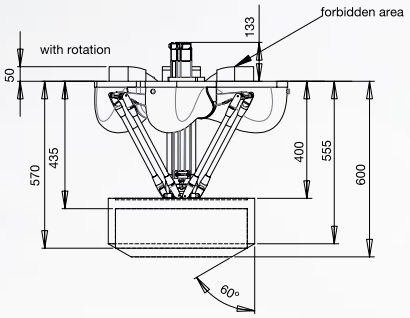
Washdown Delta robot specifications

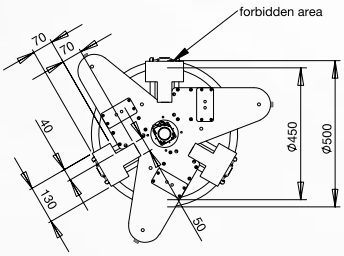




Washdown Mini Delta robot specifications







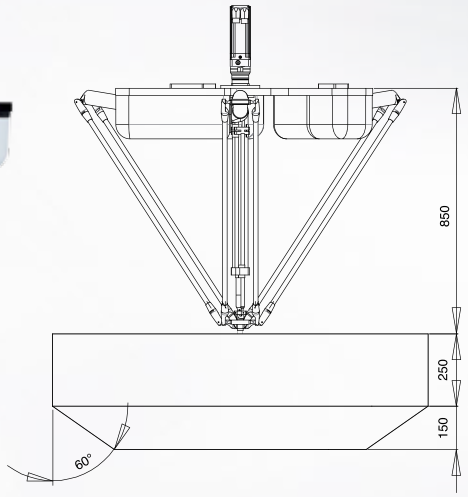
MODEL			R6Y31110H03067NJ5	R6Y31110L03067NJ5	R6Y30110S03067NJ5
Working volume	X, Y axis (stroke)		Ø 1100 mm		
	Z axis (stroke) *1		300 mm (maximum Ø 1100 mm) / 450 mm (center Ø 580 mm)		
	θ axis (rotation angle)		±180 deg (default s , it can be changed)		-
Servo motor	Arm 1, 2, 3	Model	R88M-K1K030T-BS2		
		Capacity	1000 W		
	Rotational axis 4	Model	R88M-K10030T-S2	R88M-K05030T-S2	-
		Capacity	100 W	50 W	-
Repeatability *1	X, Y, Z axis		±0.2 mm		
	θ axis		±0.1 deg		-
Maximum payload			3 kg		
Maximum through-put			150 CPM *2		
θ axis tolerable moment of inertia *3			0.035 kgm²	0.01 kgm²	-
User tubing (outer diameter)			Ø 6		
Travel limit			1. Soft limit, 2. Mechanical stopper (X, Y, Z axis)		
Noise level			‹ 73.7 dB (A)		
Ambient temperature			0 to 45ºC		
Relative humidity			Max. 85%		
Protection class			IP67		
Weight (kg)			75 kg		

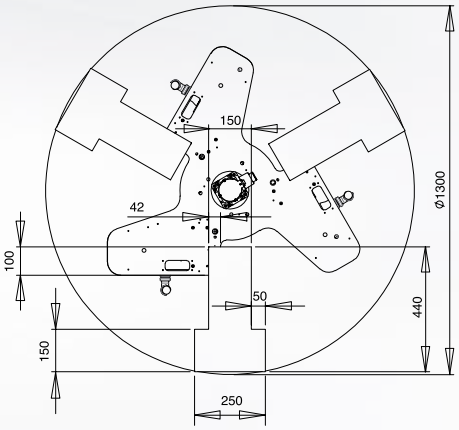
MODEL			CR_UGD4MINI_R_TS	CR_UGD4MINI_NR_TS
Working volume	X, Y axis (stroke)		Ø 500 mm	
	Z axis (stroke) *1		135 mm (maximum Ø 450 mm)	155 mm (maximum Ø 500 mm)
	θ axis (rotation angle)		±180 deg (default setting, it can be changed)	-
Servo motor	Arm 1, 2, 3	Model	R88M-K40030T-BS2	
		Capacity	400 W	
	Rotational axis 4	Model	R88M-K40030T-BS2	-
		Capacity	400 W	-
Repeatability *1	X, Y, Z axis		±0.2 mm	
	θ axis		±0.3 deg	-
Maximum payload			1 kg	
Maximum through-put			200 CPM *2	
θ axis maximum torque			According to the servo motor	-
User tubing (outer diameter)			Ø 8 *4	
Travel limit			1. Soft limit, 2. Mechanical stopper (X, Y, Z axis)	
Noise level			‹ 68 dB (A)	
Ambient temperature			5ºC to 45ºC	
Relative humidity			Max. 90%	
Protection class			IP65	
Weight (kg)			25 kg	

*1. This is the value at a constant ambient temperature. - *2. CPM: Cycle per minute. With 0.1 kg payload. When reciprocating 305 mm in horizontal and 25 mm in vertical directions. - *3. There are limits to acceleration coefficient settings. - *4. Only for the air suctioning. The air injection is not allowed.

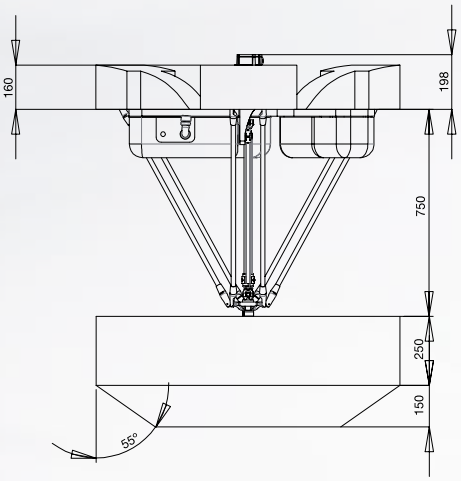
Delta Robot Series

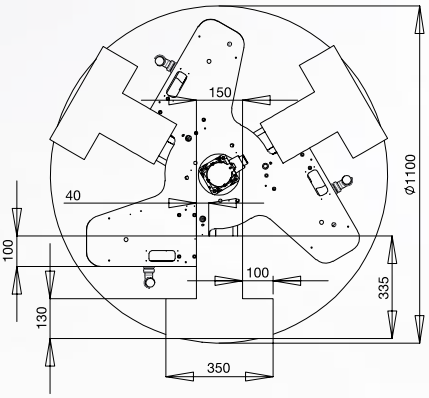
Delta robot XL specifications



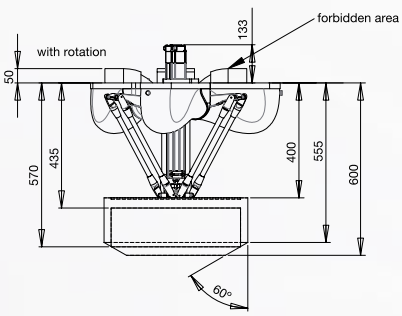


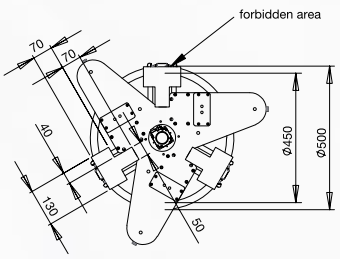
Delta robot specifications





Mini Delta robot specifications





MODEL			CR_UGD4_XL_R	CR_UGD4_XL_NR
Working volume	X, Y axis (stroke)		Ø 1300 mm	
	Z axis (stroke) *1		250 mm (maximum Ø 1300 mm) / 400 mm (center Ø 875 mm)	
	θ axis (rotation angle)		±180 deg (default setting, it can be changed)	-
Servo motor	Arm 1, 2, 3	Model	R88M-K1K030T-BS2	
		Capacity	1000 W	
	Rotational axis 4	Model	R88M-K1K030T-BS2	-
		Capacity	1000 W	-
Repeatability *1	X, Y, Z axis		±0.2 mm	
	θ axis		±0.3 deg	-
Maximum payload			2 kg	
Maximum through-put			120 CPM *2	
θ axis maximum torque			According to the servo motor	-
User tubing (outer diameter)			Ø 8 *4	
Travel limit			1. Soft limit, 2. Mechanical stopper (X, Y, Z axis)	
Noise level			‹ 68 dB (A)	
Ambient temperature			5ºC to 45ºC	
Relative humidity			Max. 90%	
Protection class			IP65	
Weight (kg)			65 kg	

MODEL			CR_UGD4_R	CR_UGD4_NR
Working volume	X, Y axis (stroke)		Ø 1100 mm	
	Z axis (stroke) *1		250 mm (maximum Ø 1100 mm) / 400 mm (center Ø 580 mm)	
	θ axis (rotation angle)		±180 deg (default setting, it can be changed)	-
Servo motor	Arm 1, 2, 3	Model	R88M-K1K030T-BS2	
		Capacity	1000 W	
	Rotational axis 4	Model	R88M-K1K030T-BS2	-
		Capacity	1000 W	-
Repeatability *1	X, Y, Z axis		±0.3 mm	
	θ axis		±0.4 deg	-
Maximum payload			2 kg	
Maximum through-put			150 CPM *2	
θ axis maximum torque			According to the servo motor	-
User tubing (outer diameter)			Ø 8 *4	
Travel limit			1. Soft limit, 2. Mechanical stopper (X, Y, Z axis)	
Noise level			‹ 68 dB (A)	
Ambient temperature			5ºC to 45ºC	
Relative humidity			Max. 90%	
Protection class			IP65	
Weight (kg)			65 kg	

MODEL			CR_UGD4MINI_R	CR_UGD4MINI_NR
Working volume	X, Y axis (stroke)		Ø 500 mm	
	Z axis (stroke) *1		135 mm (maximum Ø 450 mm)	155 mm (maximum Ø 500 mm)
	θ axis (rotation angle)		±180 deg (default setting, it can be changed)	-
Servo motor	Arm 1, 2, 3	Model	R88M-K40030T-BS2	
		Capacity	400 W	
	Rotational axis 4	Model	R88M-K40030T-BS2	-
		Capacity	400 W	-
Repeatability *1	X, Y, Z axis		±0.2 mm	
	θ axis		±0.3 deg	-
Maximum payload			1 kg	
Maximum through-put			200 CPM *2	
θ axis maximum torque			According to the servo motor	-
User tubing (outer diameter)			Ø 8 *4	
Travel limit			1. Soft limit, 2. Mechanical stopper (X, Y, Z axis)	
Noise level			‹ 68 dB (A)	
Ambient temperature			5ºC to 45ºC	
Relative humidity			Max. 90%	
Protection class			IP65	
Weight (kg)			25 kg	

*1. This is the value at a constant ambient temperature. - *2. CPM: Cycle per minute. With 0.1 kg payload. When reciprocating 305 mm in horizontal and 25 mm in vertical directions. - *3. There are limits to acceleration coefficient settings. - *4. Only for the air suctioning. The air injection is not allowed.

SCARA Solution

The flexible picking system

The wide reach and payload ranges allow you to choose the right robot type for your application. Special versions, such as clean-room and dust/drip-proof types enable installation in critical environments for applications in food and pharmaceutical industries.

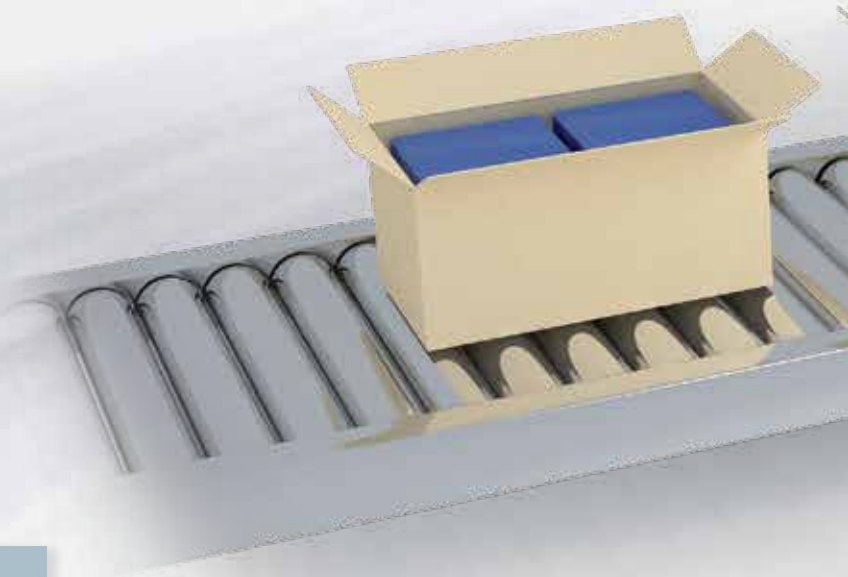
High reliability is ensured by the simple mechanical structure of our SCARA robots that use a belt-less system in the XG series via a direct coupling between motors, gearboxes, arms and the shafts.

XGL Series

- Open shaft for better wiring for gripper
- Tool flange for simple installation

High reliability

- Belt-less system
- Direct coupling
- Maintenance-free

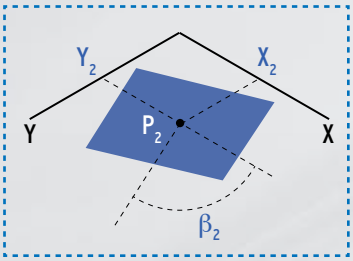


Benefits

- Higher reliability of SCARA robots (belt-less transmission on XG series, no electronic parts in movement)
- Higher precision and high speed
- Higher rigidity
- Easy integration of the FQ-M vision system

Object detection

The vision sensor calculates the coordinates of the pieces and sends the data to the robot controller via Ethernet.



FQ-M
Vision sensor

SCARA robot

Encoder feedback

P1
P2
P3

Ethernet

YRC SCARA controller

$P_1(x_1, y_1, \beta_1)$ $P_2(x_2, y_2, \beta_2)$ $P_3(x_3, y_3, \beta_3)$

Flexible Data Format

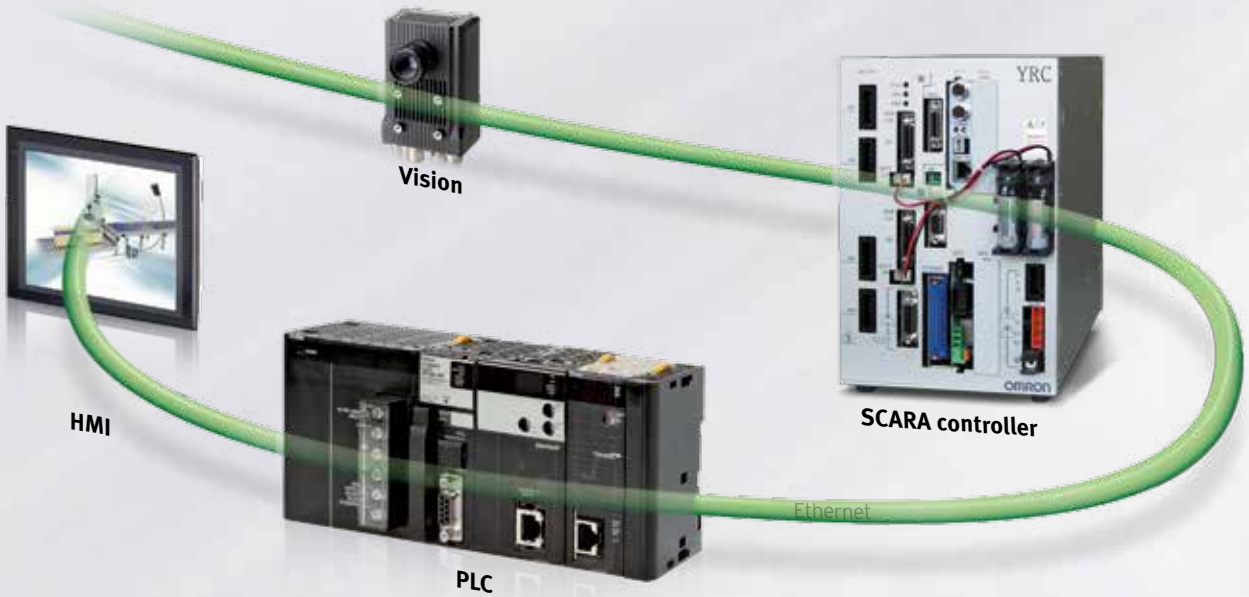
The FQ-M vision sensor provides a customisable data output format simplifying the programming manner of the robot controller.

SCARA Solution

Simplify your machines and reduce manufacturing time using a SCARA robot solution. Flexibility and a wide range of products allows you to choose exactly the right model for your needs.

A vision system can be easily connected via Ethernet to the SCARA controller thanks to the built-in communication and the system can be fully controlled by our PLC that provides a wide set of functions together with the reliability found in all Omron products.

SCARA robot



Product overview

Robot

SCARA robots

- Wide Reach range up to 1200mm radius
- Wide Payload range up to 50Kg
- Versions available for Clean-room C10, IP65 and special mounting type
- High reliability (no belts in XG series, no electronic parts in movement)
- Minimum maintenance
- Higher rigidity

Controller

YRC SCARA controller

- Compact design
- Dedicated robotic functions for Pick & Place and conveyor tracking.
- Simple programming by teaching pendant and software.
- One controller type for all the robot models.

Logic

CJ2 PLC

- Robust and reliable modular PLC
- PTP or advanced motion control
- Up to 2560 I/O
- Open communication: supports master and slave units for Profibus, CAN, PROFINET, DeviceNet and EtherNet/IP

NJ Machine Controller

- Up to 64 axes motion control
- Scalable control: CPUs for 4, 8, 16, 32 and 64 axes
- EtherCAT and EtherNet/IP ports embedded
- Conforms to IEC 61131-3 standards
- Certified PLCopen Function Blocks for Motion Control

Vision

FQ-M

- Camera, vision and connectivity in one
- Compact vision sensor
- Designed for high speed pick and place
- Encoder tracking and smart calibration function
- Fast and powerful object recognition

FH

- Powerful 4-core i7 parallel processor
- High speed CMOS camera
- Up to 8 high resolution cameras
- Advanced shape search technology

Note: Please contact your OMRON representative for detailed specs and ordering information.

SCARA Series

STANDARD MODELS			XG series - Tiny type				XGL series - Low payload				
R6Y[]			XG120	XG150	XG180	XG220	XGL250	XGL350	XGL400	XGL500	XGL600
Max. payload (kg)			1	1	1	1	5 (4)*1	5 (4)*1	5 (4)*1	5 (4)*1	5 (4)*1
Reach (mm)			120	150	180	220	250	350	400	500	600
Repeatability (mm)*2	X, Y	±(mm)	0.005	0.005	0.005	0.01	0.01	0.01	0.01	0.01	0.01
	Z	±(mm)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	R	±(º)	0.004	0.004	0.004	0.01	0.004	0.004	0.004	0.004	0.004
Axis specifications	X	Arm length (mm)	45	75	105	111	100	200	250	250	350
		Rotation range ±(º)	125	125	125	120	140	140	140	140	140
	Y	Arm length (mm)	75	75	75	109	150	150	150	250	250
		Rotation range ±(º)	145	145	145	140	144	144	144	144	144
	Z	Stroke (mm)	50	50	50	100	150	150	150	150	150
	R	Rotation range ±(º)	360	360	360	360	360	360	360	360	360
Maximum speed	X, Y	Combined (mm/s)	3300	3400	3300	3400	4500	5600	6100	5100	4900
	Z	(mm/s)	900	900	900	700	1100	1100	1100	1100	1100
	R	(º/s)	1700	1700	1700	1700	1020	1020	1020	1020	1020
Standard time cycle (sec)			0,33*3	0,33*3	0,33*3	0,46*3	0,49*4	0,49*4	0,49*4	0,59*4	0,63*4
Weight (kg)			6	6.1	6.2	7	14.5	15	15.5	17	18
Option	Tool flange R6YAC[]		-	-	-	-	XGLF	XGLF	XGLF	XGLF	XGLF
	Open shaft R6YAC[]		-	-	-	-	XGLS	XGLS	XGLS	XGLS	XGLS
Regeneration unit			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

SPECIAL MODELS			XGS series (W=Wall mount type / U=Inverse mount type)																	
R6Y□			XGS□300		XGS□400		XGS□500		XGS□600		XGS□700		XGS□800		XGS□900		XGS□1000		XGLP250	XGLP350	XGLP400	XGLP500	XGLP600
			W type	U type	W type	U type	W type	U type	W type	U type	W type	U type	W type	U type	W type	U type	W type	U type					
Max. payload (kg)			5 (4)*1		5 (4)*1		10		10		20		20		20		20		4	4	4	4	4
Reach (mm)			300		400		500		600		700		800		900		1000		250	350	400	500	600
Repeatability (mm)*2	X, Y	±(mm)	0,01		0,01		0.01		0.01		0.02		0.02		0.02		0.02		0,01	0,01	0,01	0,01	0,01
	Z	±(mm)	0,01		0,01		0.01		0.01		0.01		0.01		0.01		0.01		0,01	0,01	0,01	0,01	0,01
	R	±(º)	0,004		0,004		0.004		0.004		0.004		0.004		0.004		0.004		0,004	0,004	0,004	0,004	0,004
Axis specifications	X	Arm length (mm)	150		250		200		300		300		400		500		600		100	200	250	250	350
		Rotation range ±(º)	120		125		105		130		130		130		130		130		129	129	129	129	129
	Y	Arm length (mm)	150		150		300		300		400		400		400		400		150	150	150	250	250
		Rotation range ±(º)	130		144		125		145		130		145		150		150		134	134	144	144	144
	Z	Stroke (mm)	150		150		200 (300)				200 (400)								150	150	150	150	150
	R	Rotation range ±(º)	360		360		360		360		360		360		360		360		360	360	360	360	360
Maximum speed	X, Y	Combined (mm/s)	4400		6100		7600		8400		8400		9200		9900		10600		4500	5600	6100	5100	4900
	Z	(mm/s)	1000		1100		2300 (1700)												1100				
	R	(º/s)	1020	720	1020	720	1700	800	1700	800	920	480	920	480	920	480	920	480	1020	1020	1020	1020	1020
Standard time cycle (sec)			0,49*4		0,49*4		0,45*4		0,46*4		0,42*4		0,48*4		0,49*4		0,49*4		0,57*4	0,57*4	0,57*4	0,74*4	0,74*4
Weight (kg)			15.5		16		26		27		51		53		55		57		17.5	18	18.5	21	22
User wiring (sq x wires)			0.2 sq x 10 wires; Ø 4 x 3				0.2 sq x 20 wires; Ø 6 x 3												0.2 sq x 10 wires; Ø 4 x 4				
User tubing (Ø)																							
Option	Tool flange R6YAC[]		XGLF		XGLF		-		-		-		-		-		-		XGLF	XGLF	XGLF	XGLF	XGLF
	Open shaft R6YAC[]		XGLS		XGLS		-		-		-		-		-		-		-	-	-	-	-
Regeneration unit			N.A.		N.A.		RGU3		RGU3		RGU3		RGU3		RGU3		RGU3		N.A.	N.A.	N.A.	N.A.	N.A.

*1 Maximum payload is 4kg when tool flange and hollow shaft options are installed. *2 This is the value at constant ambient temperature. *3 With 0.1 kg payload. When reciprocating 100mm in horizontal and 25mm in vertical directions. *4 With 2 kg payload. When reciprocating 300mm in horizontal and 25mm in vertical directions.

XG series							X series
XG500	XG600	XGH600	XG700	XG800	XG900	XG1000	XX1200
10	10	20	20	20	20	20	50
500	600	600	700	800	900	1000	1200
0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.05
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005
200	300	200	300	400	500	600	600
130	130	130	130	130	130	130	125
300	300	400	400	400	400	400	600
145	145	150	150	150	150	150	150
200 (300)	200 (300)	200 (400)	200 (400)	200 (400)	200 (400)	200 (400)	400
360	360	360	360	360	360	360	360
7600	8400	7700	8400	9200	9900	10600	7400
2300 (1700)	2300 (1700)	2300 (1700)	2300 (1700)	2300 (1700)	2300 (1700)	2300 (1700)	750
1700	1700	1020	1020	1020	1020	1020	600
0,45*4	0,46*4	0,47*4	0,42*4	0,48*4	0,49*4	0,49*4	0,91*4
30	31	48 (50)	50 (52)	52 (54)	54 (56)	56 (58)	124
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
RGU3	RGU3	RGU3	RGU3	RGU3	RGU3	RGU3	RGU2

XGLC

XC

XGP series - Dust-proof & drip-proof type							XGLC/XC series - Clean type											
XGP500	XGP600	XGHP600	XGP700	XGP800	XGP900	XGP1000	XC180	XC220	XGLC250	XGLC350	XGLC400	XGLC500	XGLC600	XC500	XC600	XC700	XC800	XC1000
8	8	18	18	18	18	18	1	1	4	4	4	4	4	10	10	20	20	20
500	600	600	700	800	900	1000	180	220	250	350	400	500	600	500	600	700	800	1000
0,01	0,01	0,02	0,02	0,02	0,02	0,02	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,02	0,02	0,02	0,02	0,02
0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01
0,004	0,004	0,004	0,004	0,004	0,004	0,004	0,004	0,004	0,004	0,004	0,004	0,004	0,004	0,005	0,005	0,005	0,005	0,005
200	300	200	300	400	500	600	71	111	100	200	250	250	350	250	350	350	450	550
130	130	130	130	130	130	130	120	120	129	129	129	129	129	120	120	120	120	120
300	300	400	400	400	400	400	109	109	150	150	150	250	250	250	250	350	350	450
145	145	150	150	150	150	150	140	140	134	134	144	144	144	142	145	145	145	145
200 (300)		200 (400)					100	100	150	150	150	150	150	200 (300)		200 (400)		
360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360
7600	8400	7700	8400	9200	9900	10600	3300	3400	4500	5600	6100	5100	4900	4900	5600	6700	7300	8000
2300 (1700)							700	700	1100	1100	1100	1100	1100	1700	1700	1700	1700	1700
1700	1700	920	920	920	920	920	1700	1700	1020	1020	1020	1020	1020	876	876	600	600	600
0,55*4	0,56*4	0,57*4	0,52*4	0,58*4	0,59*4	0,59*4	0,42*3	0,45*3	0,57*4	0,57*4	0,57*4	0,74*4	0,74*4	0,53*4	0,56*4	0,57*4	0,57*4	0,6*4
28 (29)	29 (30)	48 (50)	50 (52)	52 (54)	54 (56)	56 (58)	6,5	6,5	17.5	18	18.5	21	22	31	33	57	58	59
0.2 sq x 20 wires; Ø 6 x 3							0.1 sq x 8 wires; Ø 3 x 2		0.2 sq x 10 wires; Ø 4 x 4					0.2 sq x 20 wires; Ø 6 x 3				
							Class 10; Suct. vol. (Nl/min) = 30;							Class 10; Suction volume (Nl/min) = 60;				
-	-	-	-	-	-	-	-	-	XGLF	XGLF	XGLF	XGLF	XGLF	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RGU3	RGU3	RGU3	RGU3	RGU3	RGU3	RGU3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	RGU2	RGU2	RGU2	RGU2	RGU2

Automation Systems
• Programmable logic controllers (PLC) • Human machine interfaces (HMI) • Remote I/O
• Industrial PC's • Software

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• Motion controllers • Servo systems • Inverters • Robots

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• Digital panel indicators • Electromechanical relays • Monitoring products • Solid-state relays
• Limit switches • Pushbutton switches • Low voltage switch gear

Sensing & Safety
• Photoelectric sensors • Inductive sensors • Capacitive & pressure sensors
• Cable connectors • Displacement & width-measuring sensors • Vision systems
• Safety networks • Safety sensors • Safety units/relay units • Safety door/guard lock switches

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