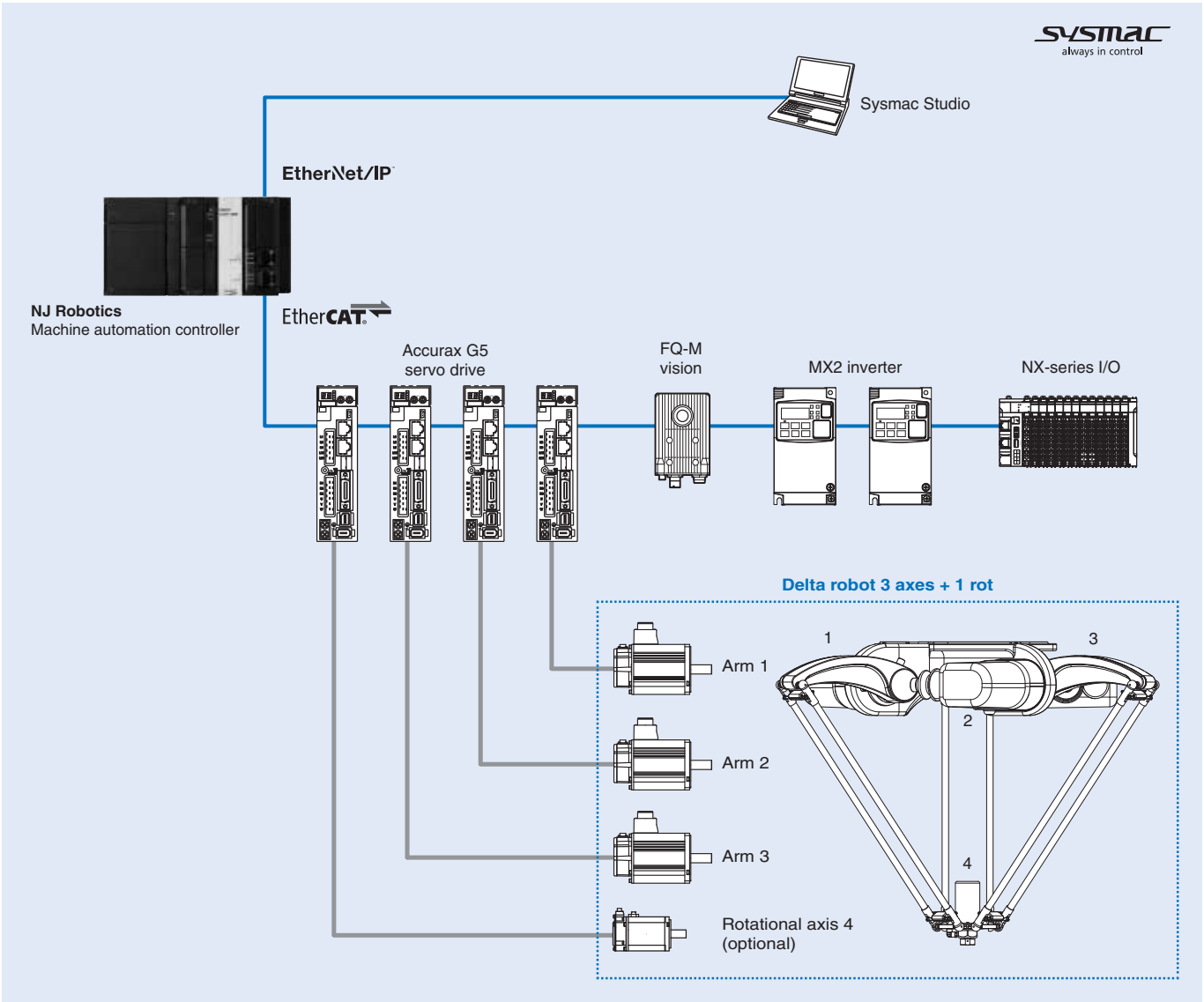
Delta robot 3 axes + 1 rot

The fastest picking system integrated in the Sysmac Platform

- Robot control integrated in the NJ robotics controller
- Control of up to 8 robots by one controller
- Degrees of freedom: 3 + 1 (rotational axis optional)
- Up to 200 cycle per minute
- Models from 500 to 1,600 mm working range
- Payload range: 1 to 10 kg
- Different types of Delta robot arms
- IP class range: IP65, IP67, IP69K
- Anti-collision detection option

System configuration



Note: Servo motors included in the Delta robot.

Specifications

Delta robot 3 axes + 1 rot series

IP69K protection class models

Model			CR_UGD4_XL_HD□		CR_UGD4_HD□		CR_UGD4_XS_HD□	
			With rotational axis	Without rotational axis	With rotational axis	Without rotational axis	With rotational axis	Without rotational axis
Working volume	X, Y axis (stroke)		Ø 1,300 mm		Ø 1,100 mm		Ø 650 mm	
	Z axis (stroke)*1		250 mm (maximum Ø 1,300 mm) 400 mm (center Ø 870 mm)		250 mm (maximum Ø 1,100 mm) 400 mm (center Ø 670 mm)		200 mm (maximum Ø 650 mm) 270 mm (center Ø 407.5 mm)	
	θ axis (rotation angle)		±180 deg (default setting, it can be changed)	-	±180 deg (default setting, it can be changed)	-	±180 deg (default setting, it can be changed)	-
Servo motor	Arm 1, 2, 3	Model	R88M-K1K030T-BS2-V2					
		Capacity	1,000 W					
	Rotational axis 4	Model	R88M-K75030T-BS2	-	R88M-K75030T-BS2	-	R88M-K75030T-BS2	-
		Capacity	750 W	-	750 W	-	750 W	-
Repeatability*2	X, Y, Z axis		±0.2 mm					
	θ axis		±0.3 deg	-	±0.3 deg	-	±0.3 deg	-
Maximum payload			2 kg					
Maximum through-put*3			120 CPM*4		150 CPM*4		170 CPM*4	
Gear box ratio	X, Y, Z axis		1:31					
	θ axis		1:10	-	1:10	-	1:10	-
θ axis torque limitation			7 Nm	-	7 Nm	-	7 Nm	-
Travel limit			1. Soft limit, 2. Mechanical stopper (X, Y, Z axis)					
Noise level			< 68 dB (A)					
Ambient temperature			Operating: 5ºC to 45ºC Storage: -25ºC to 60ºC					
Relative humidity			Max. 90%					
Protection class			IP69K					
Weight			100 kg					

*1. For further details please check the dimensional drawing in the next section.
*2. This is the value at a constant ambient temperature.
*3. With 0.1 kg payload. When reciprocating 305 mm in horizontal and 25 mm in vertical directions.
*4. CPM: Cycle per minutes. Check the note 3 for the cycle definition.

IP67 protection class models

Model			R6Y3□110□03067NJ5			R6Y3□065□02067NJ5		
			With high inertia rotational axis	With low inertia rotational axis	Without rotational axis	With high inertia rotational axis	With low inertia rotational axis	Without rotational axis
Working volume	X, Y axis (stroke)		Ø 1,100 mm			Ø 650 mm		
	Z axis (stroke)*1		300 mm (maximum Ø 1,100 mm) 450 mm (center Ø 580 mm)			150 mm (maximum Ø 650 mm) 250 mm (center Ø 480 mm)		
	θ axis (rotation angle)		±180 deg (default setting, it can be changed)		-	±180 deg (default setting, it can be changed)		-
Servo motor	Arm 1, 2, 3	Model	R88M-K1K030T-BS2			R88M-K40030T-BS2		
		Capacity	1,000 W			400 W		
	Rotational axis 4	Model	R88M-K10030T-S2	R88M-K05030T-S2	-	R88M-K10030T-S2	R88M-K05030T-S2	-
		Capacity	100 W	50 W	-	100 W	50 W	-
Repeatability*2	X, Y, Z axis		±0.2 mm			±0.1 mm		
	θ axis		±0.1 deg		-	±0.1 deg		-
Maximum payload			3 kg			2 kg		
Maximum through-put*3			150 CPM*4			200 CPM*4		
θ axis tolerable moment of inertia*5			0.035 kgm^2	0.01 kgm^2	-	0.035 kgm^2	0.01 kgm^2	-
User tubing (outer diameter)			Ø 6					
Travel limit			1. Soft limit, 2. Mechanical stopper (X, Y, Z axis)					
Noise level			< 73.7 dB (A)			< 64.5 dB (A)		
Ambient temperature			0ºC to 45ºC					
Relative humidity			Max. 85%					
Protection class			IP67					
Weight			75 kg			32 kg		

*1. For further details please check the dimensional drawing in the next section.
*2. This is the value at a constant ambient temperature.
*3. With 0.1 kg payload. When reciprocating 305 mm in horizontal and 25 mm in vertical directions.
*4. CPM: Cycle per minutes. Check the note 3 for the cycle definition.
*5. There are limits to acceleration coefficient settings.

IP65 protection class models

Model			CR_UGD4_XXLH		CR_UGD4_XXL1300H	
			With rotational axis	Without rotational axis	With rotational axis	Without rotational axis
Working volume	X, Y axis (stroke)		Ø 1,600 mm		Ø 1,300 mm	
	Z axis (stroke)[*1]		350 mm (maximum Ø 1,600 mm) 550 mm (center Ø 814 mm)		300 mm (maximum Ø 1,300 mm) 450 mm (center Ø 780 mm)	
	θ axis (rotation angle)		±180 deg (default setting, it can be changed)	-	±180 deg (default setting, it can be changed)	-
Servo motor	Arm 1, 2, 3	Model	R88M-K3K030C-BS2			
		Capacity	3,000 W			
	Rotational axis 4	Model	R88M-K1K030C-BS2	-	R88M-K1K030C-BS2	-
		Capacity	1,000 W	-	1,000 W	-
Repeatability[*2]	X, Y, Z axis		±0.5 mm			
	θ axis		±0.3 deg	-	±0.3 deg	-
Maximum payload			10 kg			
Maximum through-put[*3]			80 CPM[*4]		90 CPM[*4]	
Gear box ratio	X, Y, Z axis		1:38,5			
	θ axis		1:20	-	1:20	-
θ axis torque limitation			19 Nm	-	19 Nm	-
User tubing (outer diameter)			Ø 8[*5]			
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			115 kg			

[*1.] For further details please check the dimensional drawing in the next section.
[*2.] This is the value at a constant ambient temperature.
[*3.] With 0.1 kg payload. When reciprocating 305 mm in horizontal and 25 mm in vertical directions.
[*4.] CPM: Cycle per minutes. Check the note 3 for the cycle definition.
[*5.] Only for the air suctioning. The air injection is not allowed.

Model			CR_UGD4_XL		CR_UGD4	
			With rotational axis	Without rotational axis	With rotational axis	Without rotational axis
Working volume	X, Y axis (stroke)		Ø 1,300 mm		Ø 1,100 mm	
	Z axis (stroke)[*1]		250 mm (maximum Ø 1,300 mm) 400 mm (center Ø 870 mm)		250 mm (maximum Ø 1,100 mm) 400 mm (center Ø 670 mm)	
	θ axis (rotation angle)		±180 deg (default setting, it can be changed)	-	±180 deg (default setting, it can be changed)	-
Servo motor	Arm 1, 2, 3	Model	R88M-K1K030T-BS2			
		Capacity	1,000 W			
	Rotational axis 4	Model	R88M-K1K030T-BS2	-	R88M-K1K030T-BS2	-
		Capacity	1,000 W	-	1,000 W	-
Repeatability[*2]	X, Y, Z axis		±0.2 mm		±0.3 mm	
	θ axis		±0.3 deg	-	±0.4 deg	-
Maximum payload			2 kg			
Maximum through-put[*3]			120 CPM[*4]		150 CPM[*4]	
Gear box ratio	X, Y, Z axis		1:31			
	θ axis		1:10	-	1:10	-
θ axis torque limitation			7 Nm	-	7 Nm	-
User tubing (outer diameter)			Ø 8[*5]			
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			65 kg			

[*1.] For further details please check the dimensional drawing in the next section.
[*2.] This is the value at a constant ambient temperature.
[*3.] With 0.1 kg payload. When reciprocating 305 mm in horizontal and 25 mm in vertical directions.
[*4.] CPM: Cycle per minutes. Check the note 3 for the cycle definition.
[*5.] Only for the air suctioning. The air injection is not allowed.

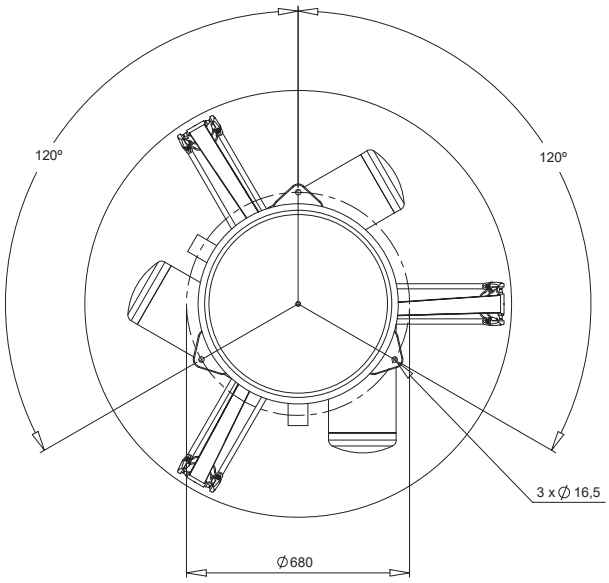
Model			CR_UGD4MINI	
			With rotational axis	Without rotational axis
Working volume	X, Y axis (stroke)		Ø 500 mm	
	Z axis (stroke)*1		130 mm (maximum Ø 500 mm)	155 mm (maximum Ø 500 mm)
	θ axis (rotation angle)		±180 deg (default setting, it can be changed)	-
Servo motor	Arm 1, 2, 3	Model	R88M-K40030T-BS2	
		Capacity	400 W	
	Rotational axis 4	Model	R88M-K40030T-BS2	-
		Capacity	400 W	-
Repeatability*2	X, Y, Z axis		±0.2 mm	
	θ axis		±0.3 deg	-
Maximum payload			1 kg	
Maximum through-put*3			200 CPM*4	
Gear box ratio	X, Y, Z axis		1:25	
	θ axis		1:1	-
θ axis torque limitation			7 Nm	-
User tubing (outer diameter)			Ø 8*5	
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*6	
Weight			25 kg	

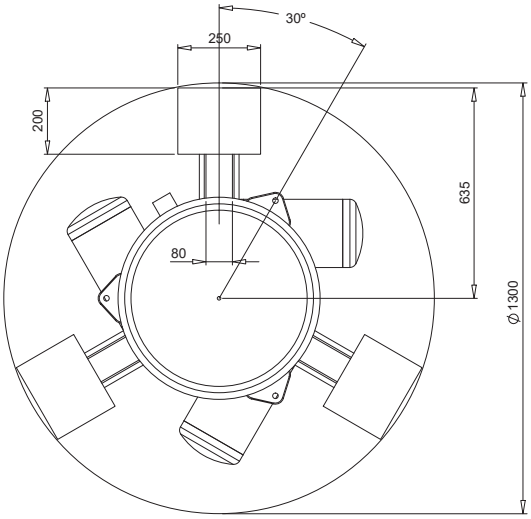
*1. For further details please check the dimensional drawing in the next section.
*2. This is the value at a constant ambient temperature.
*3. With 0.1 kg payload. When reciprocating 305 mm in horizontal and 25 mm in vertical directions.
*4. CPM: Cycle per minutes. Check the note 3 for the cycle definition.
*5. Only for the air suctioning. The air injection is not allowed.
*6. The CR_UGD4MINI_□_TS models are delivered standard with stainless steel + titanium secondary arms.

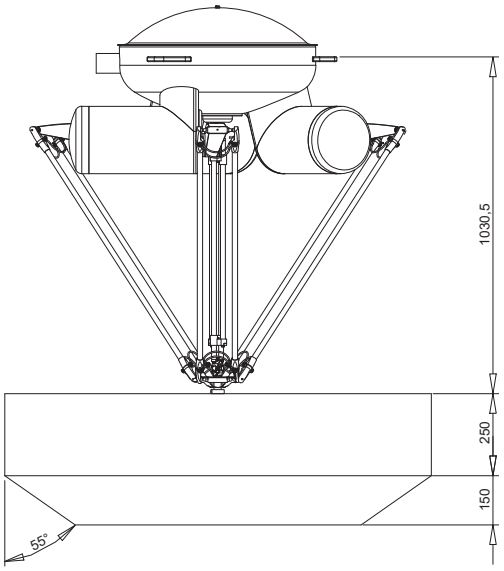
Dimensions

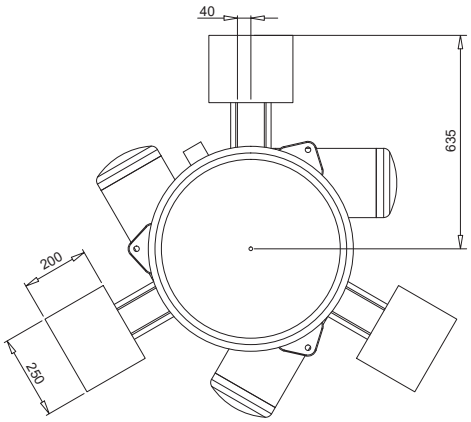
IP69K protection class models

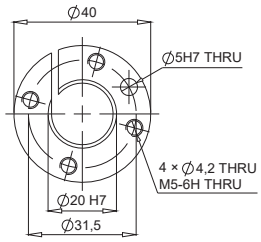
CR_UGD4_XL_□R_HD□



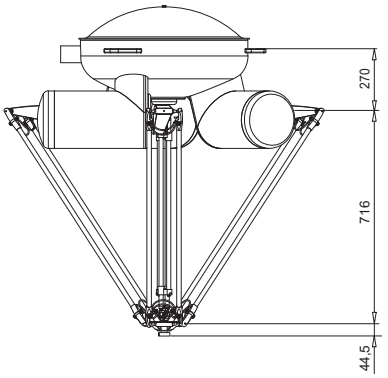




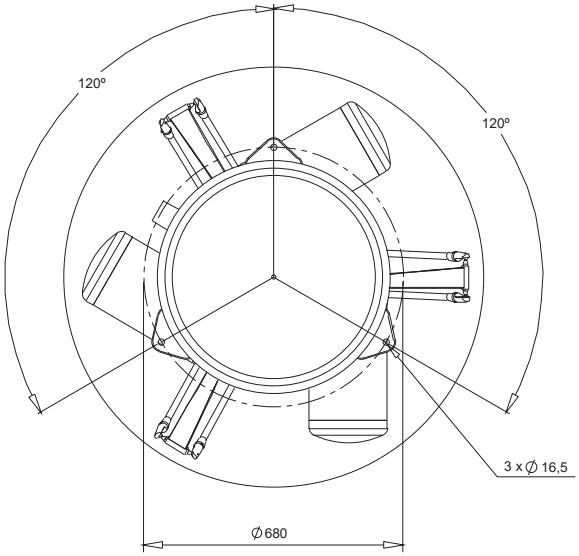


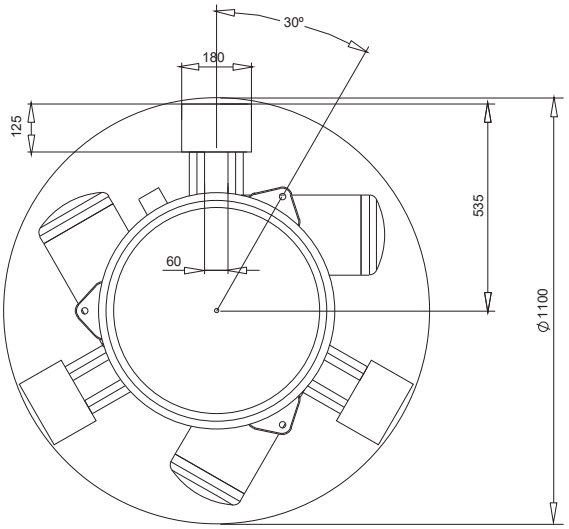


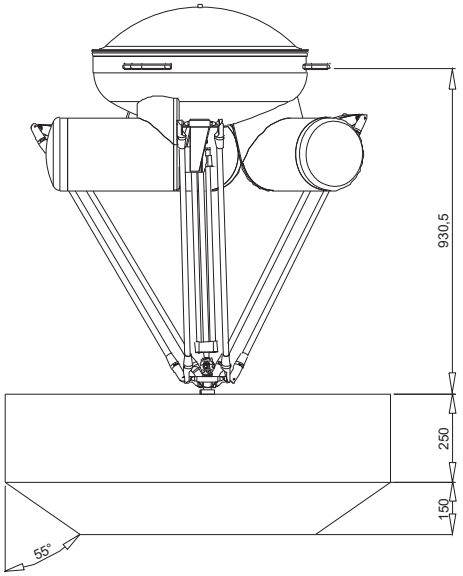
Gripper dimensions

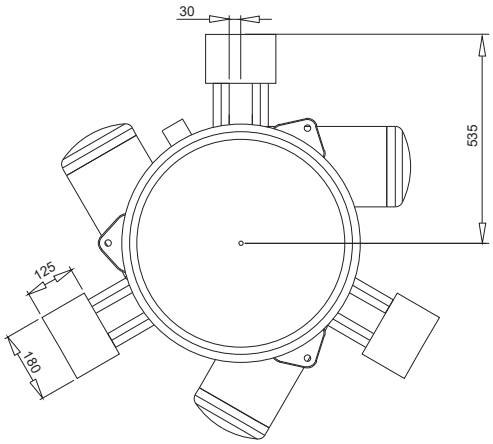


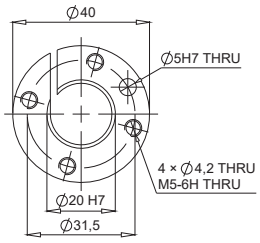
CR_UGD4_□R_HD□



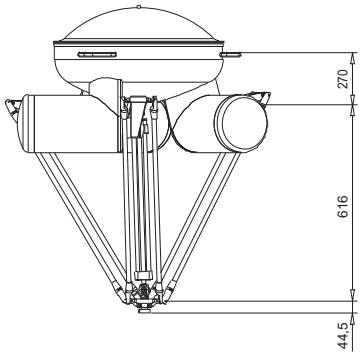




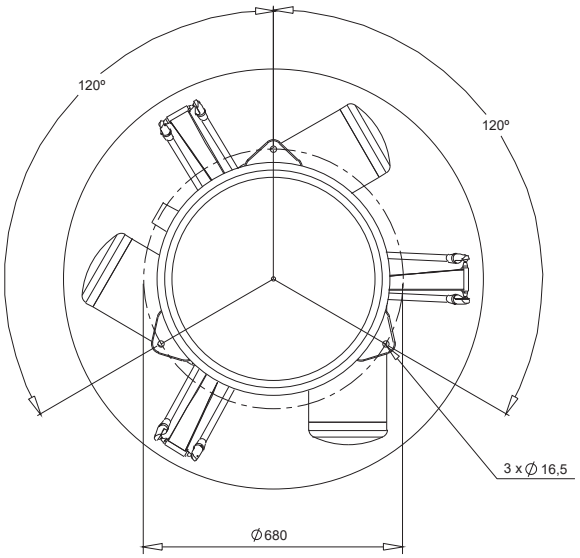


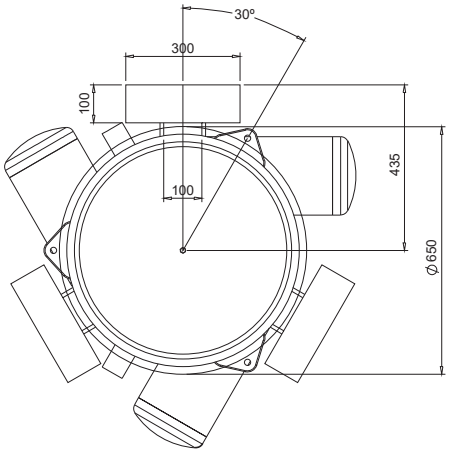


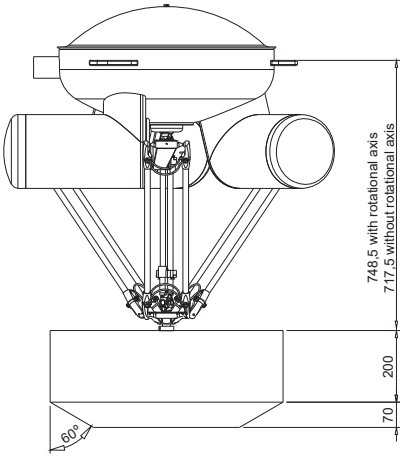
Gripper dimensions

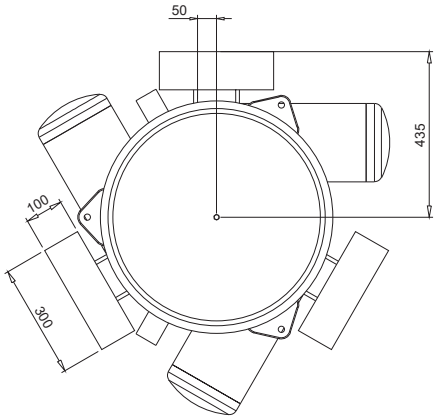


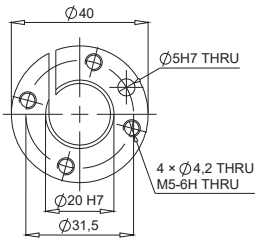
CR_UGD4_XS_□R_HD□



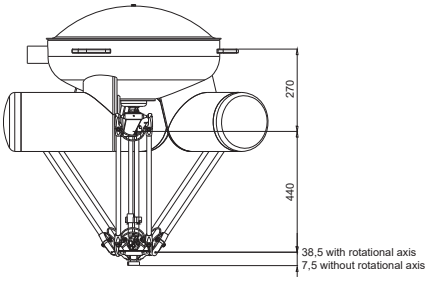






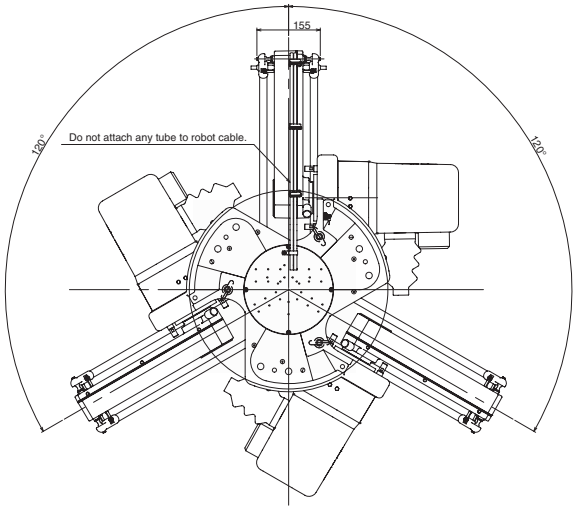


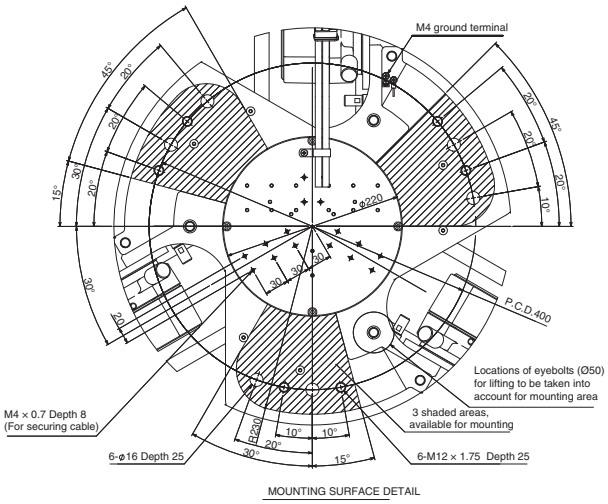
Gripper dimensions

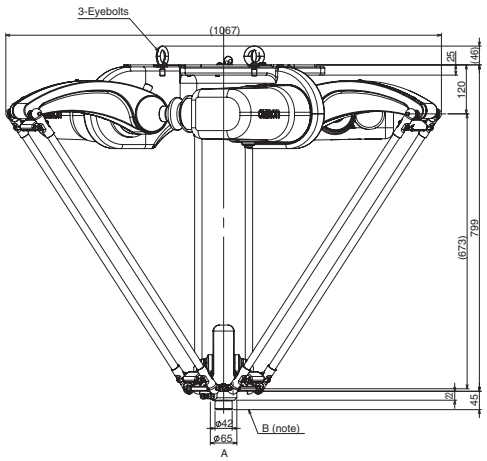


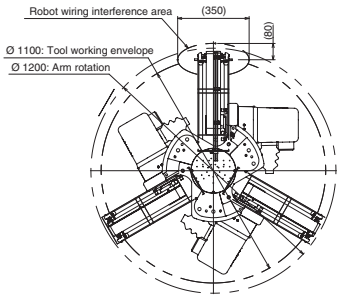
IP67 protection class models

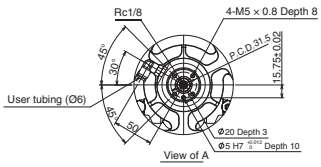
R6Y3□110□03067NJ5

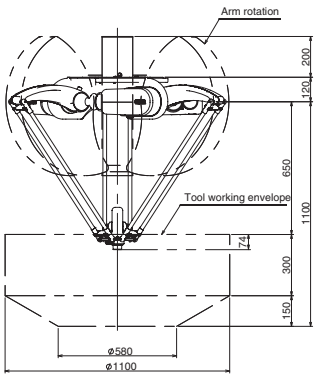






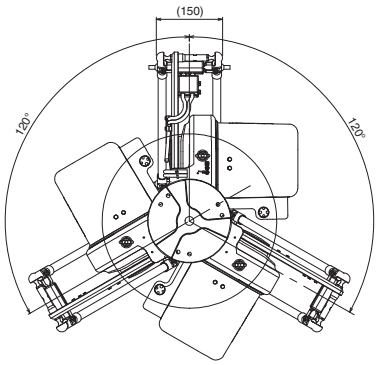


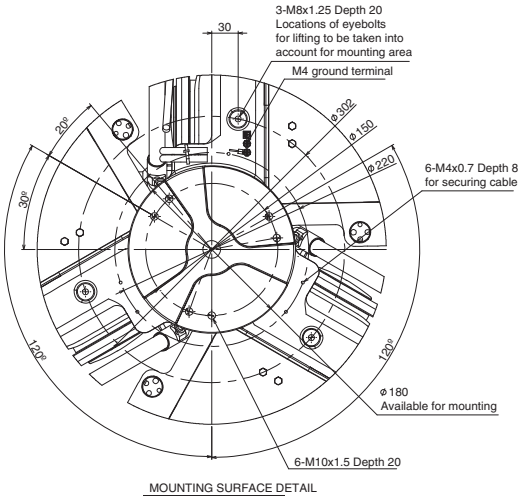




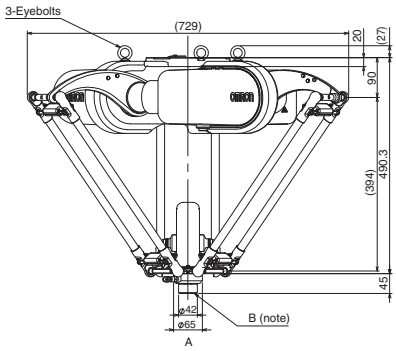
Note: The three areas of the robot base are available for mounting. Leave other area unoccupied for other needs (e.g. wiring). Also note the locations of the eyebolts when designing a mounting frame. Any part of end-effector should not stick out above the surface of B.

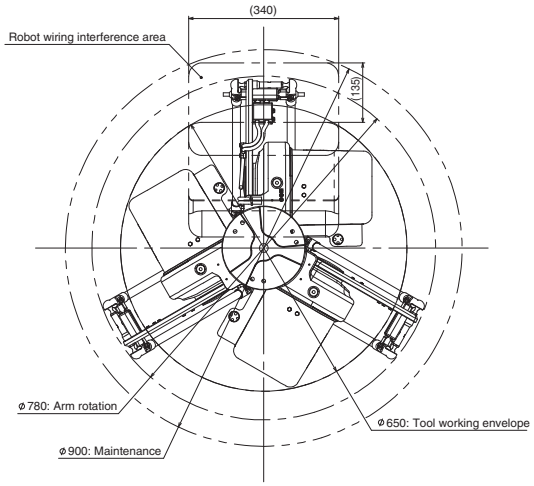
R6Y3□065□02067NJ5

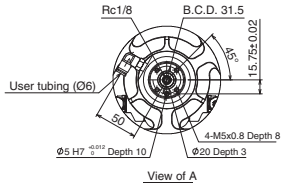




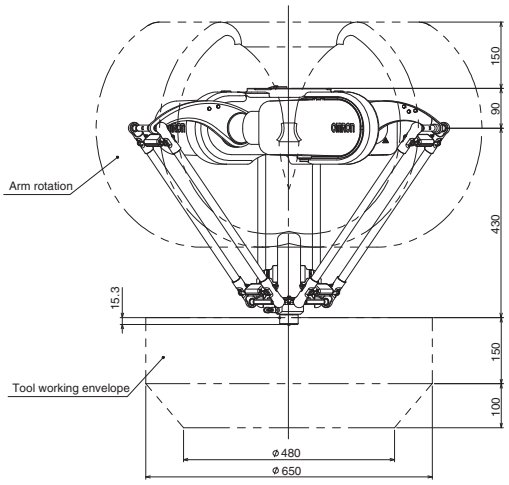
MOUNTING SURFACE DETAIL







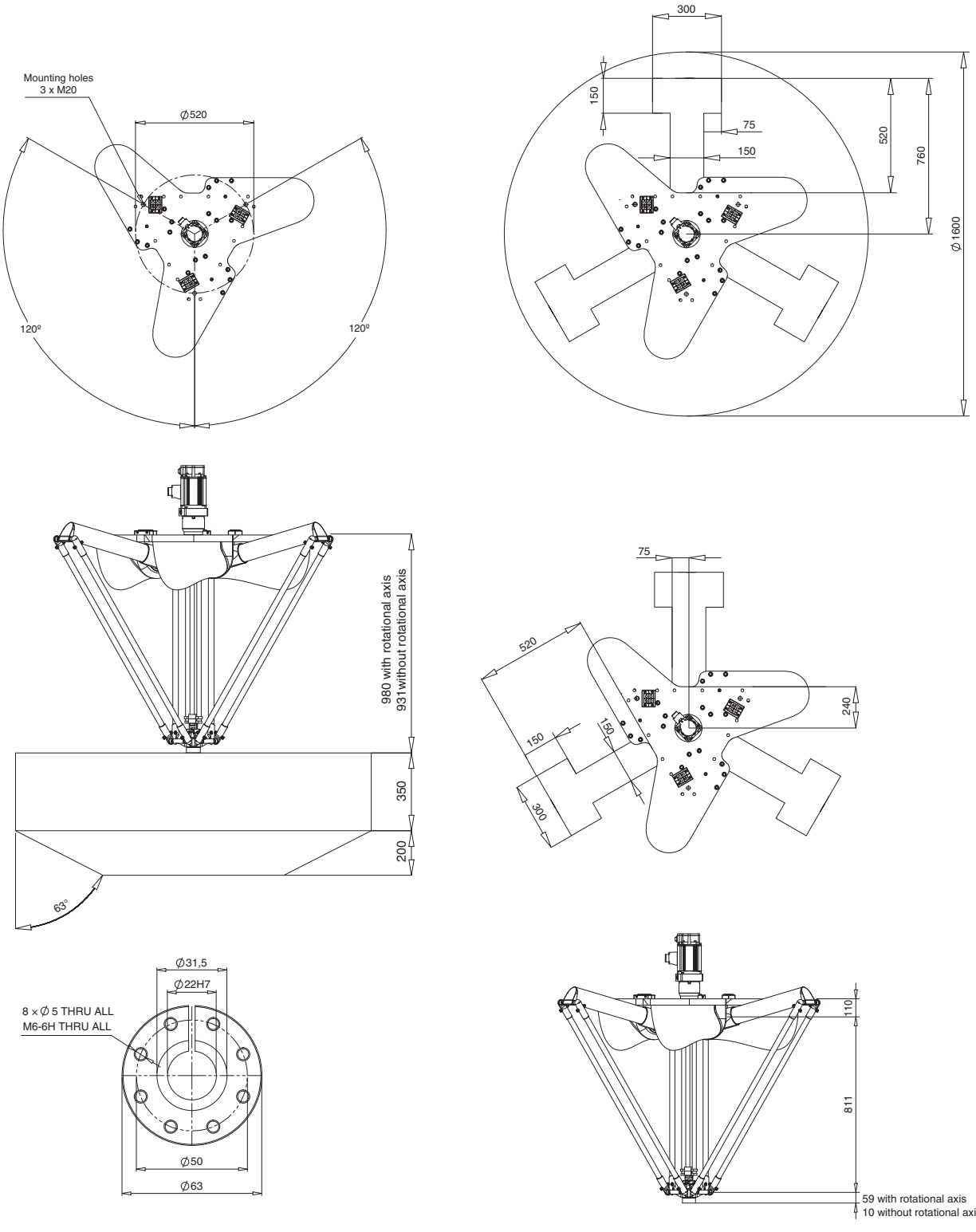
View of A



Note: Mounting area should be smaller than 180 mm diameter to avoid collision with robot cable. Frame of base should not be in the arm moving area. Any part of end-effector should not stick out above the surface of B.

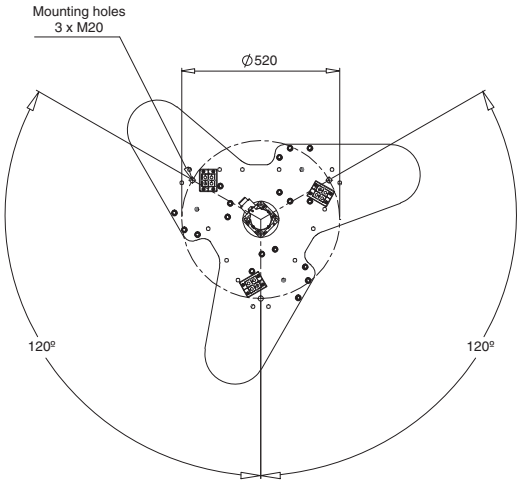
IP65 protection class models

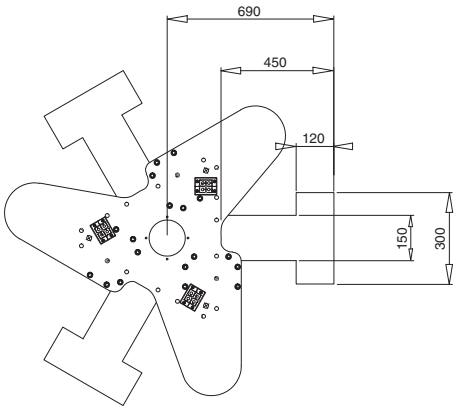
CR_UGD4_XXLH_□R

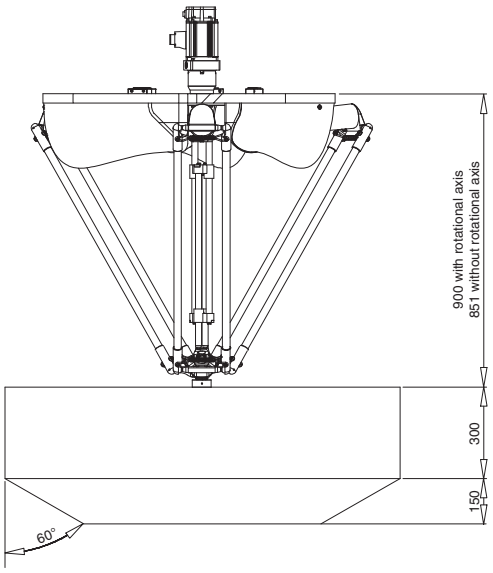


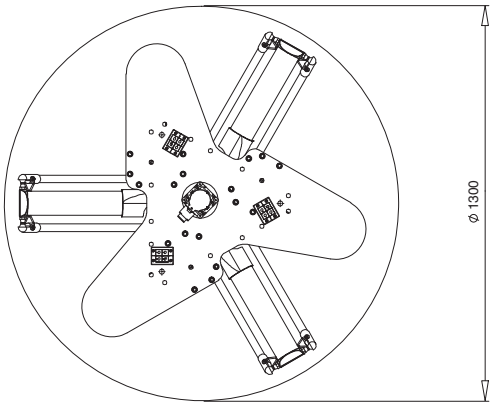
Gripper dimensions

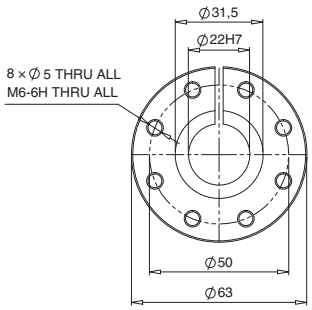
CR_UGD4_XXL1300H_□R



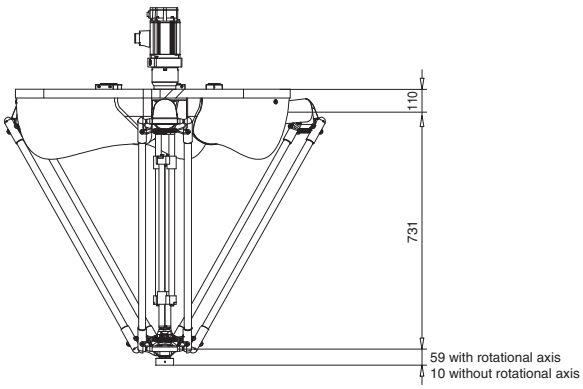




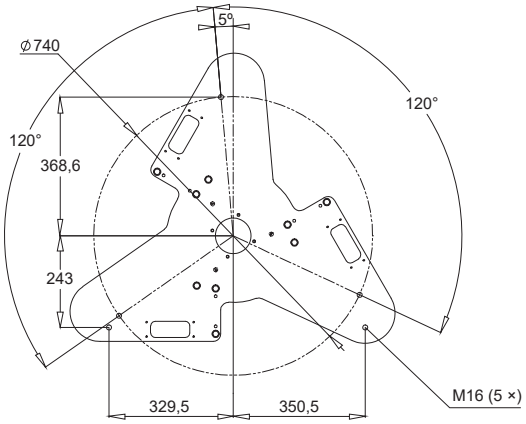


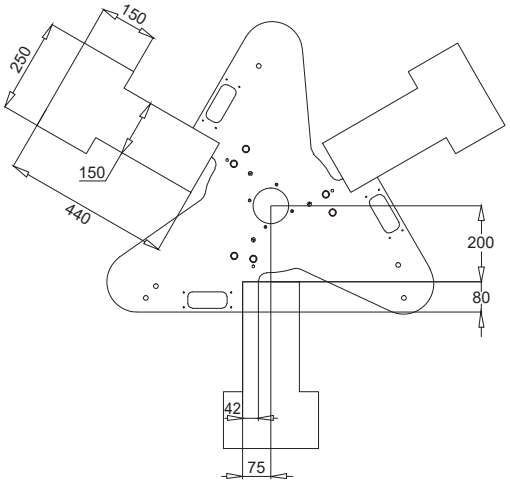


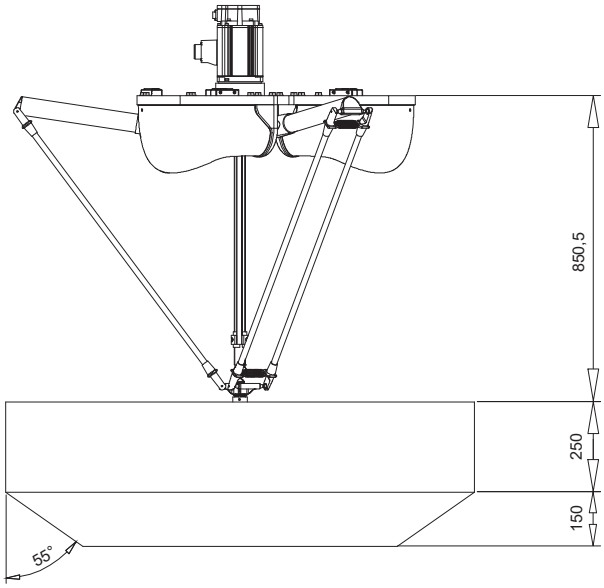
Gripper dimensions

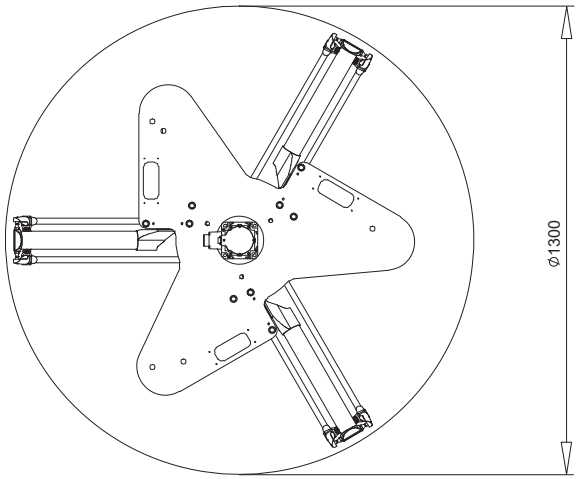


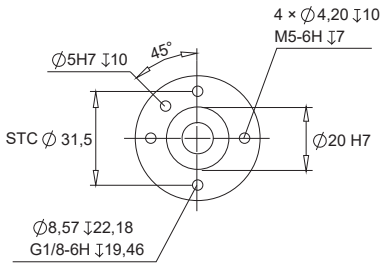
CR_UGD4_XL_□R



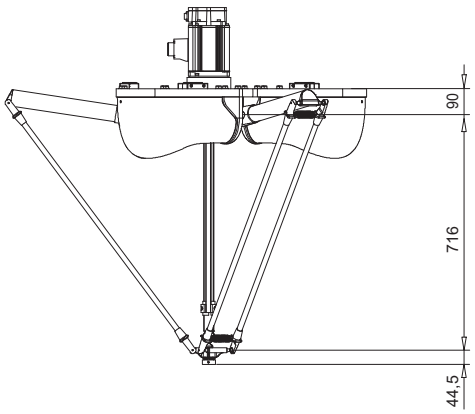




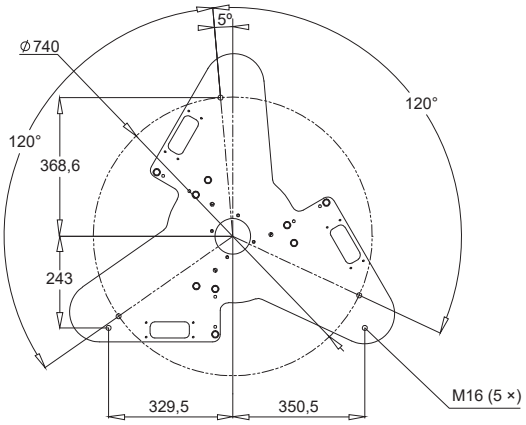


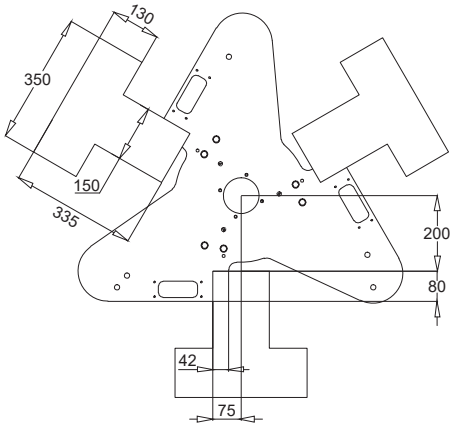


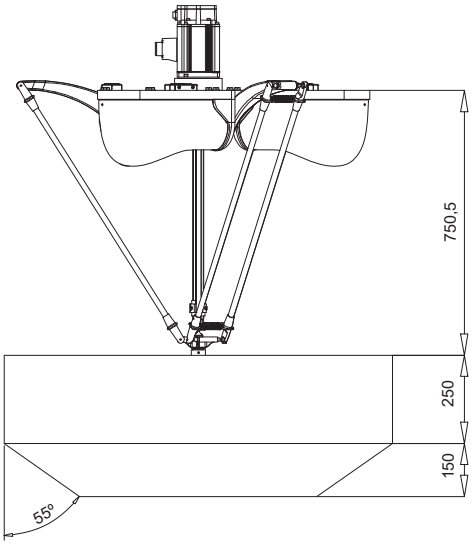
Gripper dimensions

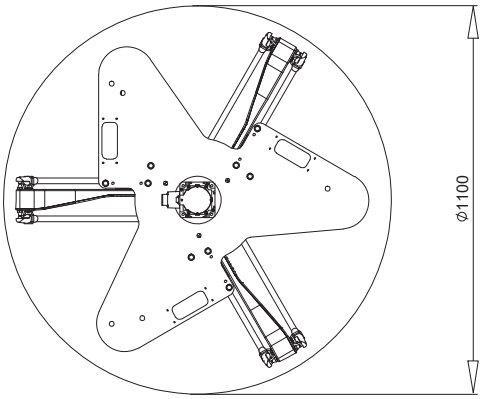


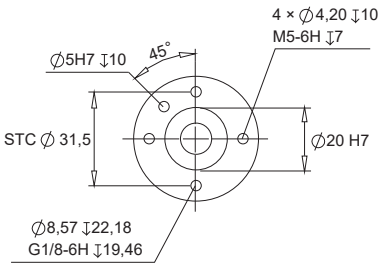
CR_UGD4_□R



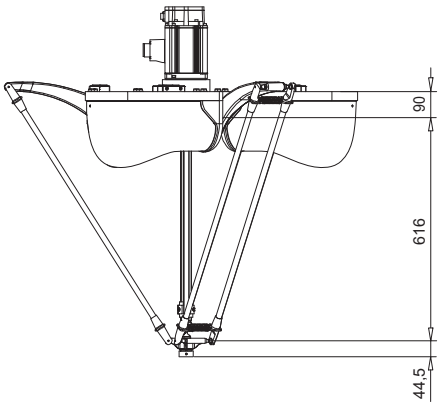




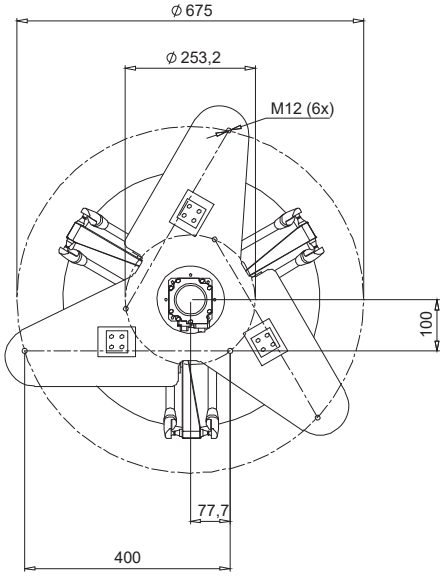


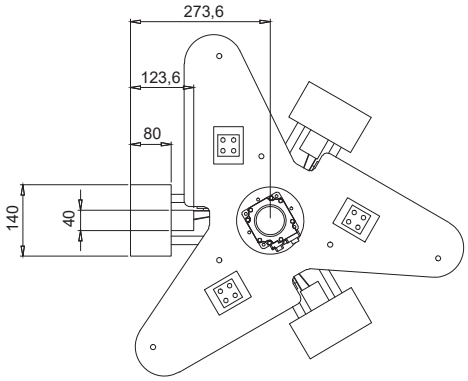


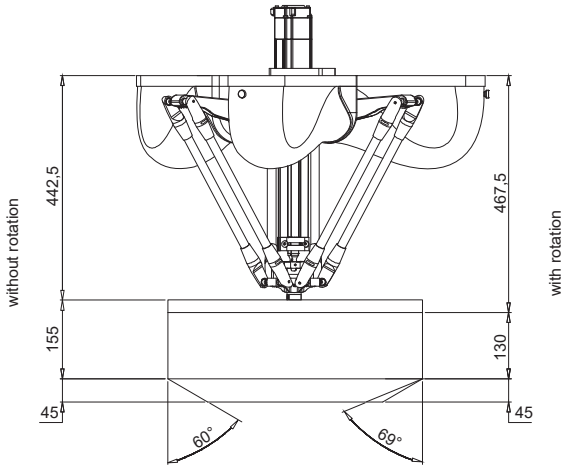
Gripper dimensions

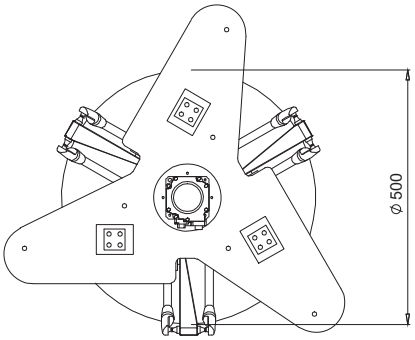


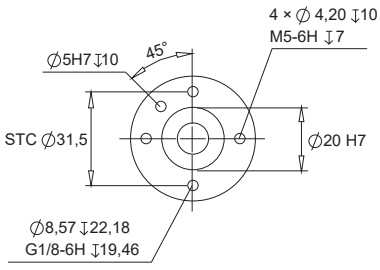
CR_UGD4MINI_□R□



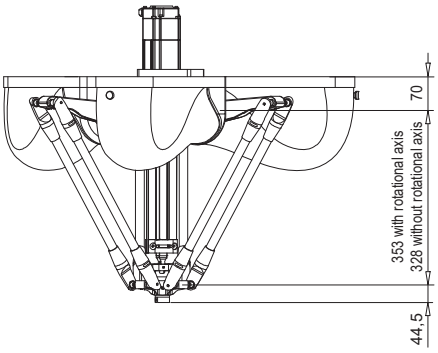




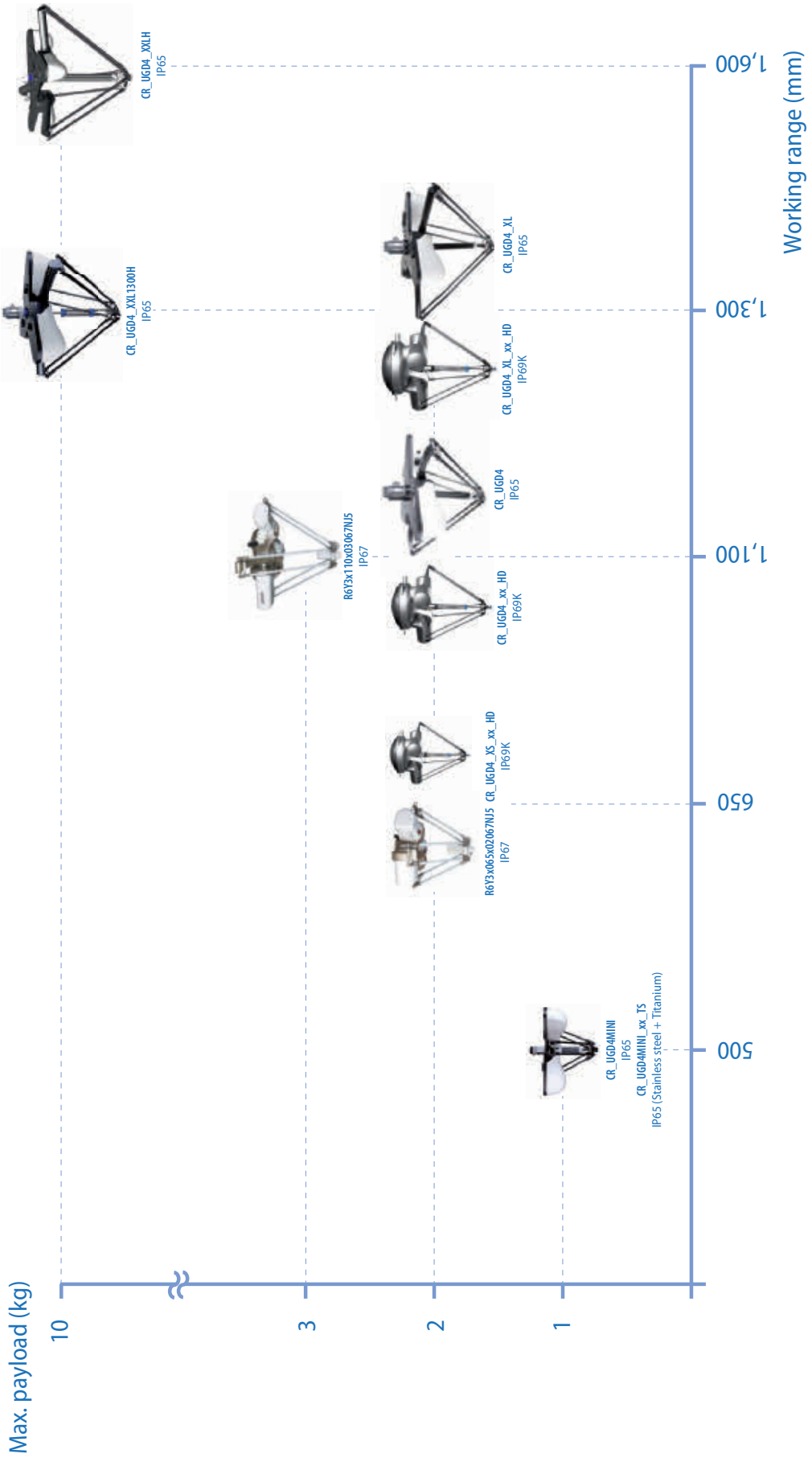




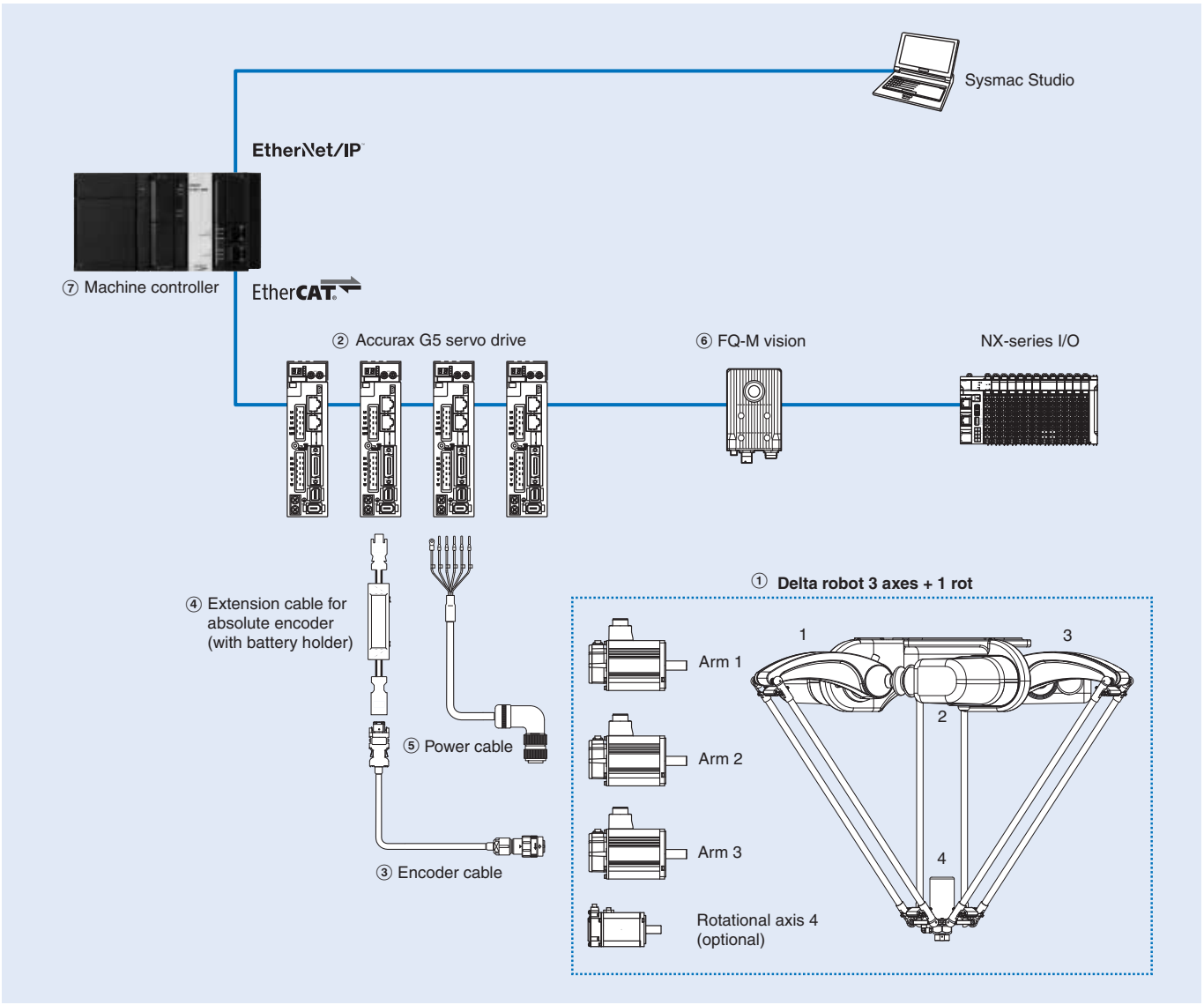
Gripper dimensions



Selection table



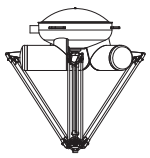
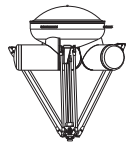
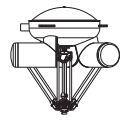
Ordering information



Note: Servo motors included in the Delta robot.

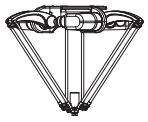
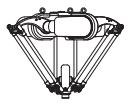
Delta robot 3 axes + 1 rot series

IP69K protection class models

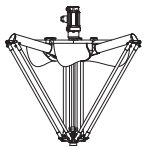
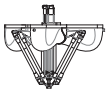
Symbol	Model	Cable length	Max. payload	Working range	Description[*1]	Axis	②Applicable servo drive
① 	CR_UGD4_XL_R_HD3	3 m	2 kg	Ø 1,300 x 250 mm (Max. 400)	3 + 1 axes Hygienic Design	Arm 1	R88D-KN15H-ECT
	CR_UGD4_XL_R_HD5	5 m				Arm 2	R88D-KN15H-ECT
	CR_UGD4_XL_R_HD10	10 m				Arm 3	R88D-KN15H-ECT
	CR_UGD4_XL_R_HD15	15 m				Rotational 4	R88D-KN08H-ECT
	CR_UGD4_XL_R_HD20	20 m					
	CR_UGD4_XL_NR_HD3	3 m			3 axes Hygienic Design	Arm 1	R88D-KN15H-ECT
	CR_UGD4_XL_NR_HD5	5 m				Arm 2	R88D-KN15H-ECT
	CR_UGD4_XL_NR_HD10	10 m				Arm 3	R88D-KN15H-ECT
	CR_UGD4_XL_NR_HD15	15 m					
	CR_UGD4_XL_NR_HD20	20 m					
① 	CR_UGD4_R_HD3	3 m		Ø 1,100 x 250 mm (Max. 400)	3 + 1 axes Hygienic Design	Arm 1	R88D-KN15H-ECT
	CR_UGD4_R_HD5	5 m				Arm 2	R88D-KN15H-ECT
	CR_UGD4_R_HD10	10 m				Arm 3	R88D-KN15H-ECT
	CR_UGD4_R_HD15	15 m				Rotational 4	R88D-KN08H-ECT
	CR_UGD4_R_HD20	20 m					
	CR_UGD4_NR_HD3	3 m			3 axes Hygienic Design	Arm 1	R88D-KN15H-ECT
	CR_UGD4_NR_HD5	5 m				Arm 2	R88D-KN15H-ECT
	CR_UGD4_NR_HD10	10 m				Arm 3	R88D-KN15H-ECT
	CR_UGD4_NR_HD15	15 m					
	CR_UGD4_NR_HD20	20 m					
① 	CR_UGD4_XS_R_HD3	3 m		Ø 650 x 200 mm (Max. 270)	3 + 1 axes Hygienic Design	Arm 1	R88D-KN15H-ECT
	CR_UGD4_XS_R_HD5	5 m				Arm 2	R88D-KN15H-ECT
	CR_UGD4_XS_R_HD10	10 m				Arm 3	R88D-KN15H-ECT
	CR_UGD4_XS_R_HD15	15 m				Rotational 4	R88D-KN08H-ECT
	CR_UGD4_XS_R_HD20	20 m					
	CR_UGD4_XS_NR_HD3	3 m			3 axes Hygienic Design	Arm 1	R88D-KN15H-ECT
	CR_UGD4_XS_NR_HD5	5 m				Arm 2	R88D-KN15H-ECT
	CR_UGD4_XS_NR_HD10	10 m				Arm 3	R88D-KN15H-ECT
	CR_UGD4_XS_NR_HD15	15 m					
	CR_UGD4_XS_NR_HD20	20 m					

[*1] The models with IP69K protection class include the encoder, power and brake cables.

IP67 protection class models

Symbol	Model	Max. payload	Working range	Description	Axis	②Applicable servo drive
① 	R6Y31110H03067NJ5	3 kg	Ø 1,100 x 300 mm (Max. 450)	3 + 1 axes (high inertia rotational axis)	Arm 1	R88D-KN15H-ECT
					Arm 2	R88D-KN15H-ECT
					Arm 3	R88D-KN15H-ECT
					Rotational 4	R88D-KN01H-ECT
	R6Y31110L03067NJ5			3 + 1 axes (low inertia rotational axis)	Arm 1	R88D-KN15H-ECT
					Arm 2	R88D-KN15H-ECT
					Arm 3	R88D-KN15H-ECT
					Rotational 4	R88D-KN01H-ECT
	R6Y30110S03067NJ5			3 axes	Arm 1	R88D-KN15H-ECT
					Arm 2	R88D-KN15H-ECT
					Arm 3	R88D-KN15H-ECT
① 	R6Y31065H02067NJ5	2 kg	Ø 650 x 150 mm (Max. 250)	3 + 1 axes (high inertia rotational axis)	Arm 1	R88D-KN04H-ECT
					Arm 2	R88D-KN04H-ECT
					Arm 3	R88D-KN04H-ECT
					Rotational 4	R88D-KN01H-ECT
	R6Y31065L02067NJ5			3 + 1 axes (low inertia rotational axis)	Arm 1	R88D-KN04H-ECT
					Arm 2	R88D-KN04H-ECT
					Arm 3	R88D-KN04H-ECT
					Rotational 4	R88D-KN01H-ECT
	R6Y30065S02067NJ5			3 axes	Arm 1	R88D-KN04H-ECT
					Arm 2	R88D-KN04H-ECT
					Arm 3	R88D-KN04H-ECT

IP65 protection class models

Symbol	Model	Max. payload	Working range	Description	Axis	②Applicable servo drive
① 	CR_UGD4_XXLH_R	10 kg	Ø 1,600 x 350 mm (Max. 550)	3 + 1 axes	Arm 1	R88D-KN30F-ECT
					Arm 2	R88D-KN30F-ECT
					Arm 3	R88D-KN30F-ECT
					Rotational 4	R88D-KN15F-ECT
	CR_UGD4_XXLH_NR			3 axes	Arm 1	R88D-KN30F-ECT
					Arm 2	R88D-KN30F-ECT
					Arm 3	R88D-KN30F-ECT
①	CR_UGD4_XXL1300H_R		Ø 1,300 x 300 mm (Max. 450)	3 + 1 axes	Arm 1	R88D-KN30F-ECT
					Arm 2	R88D-KN30F-ECT
					Arm 3	R88D-KN30F-ECT
					Rotational 4	R88D-KN15F-ECT
	CR_UGD4_XXL1300H_NR			3 axes	Arm 1	R88D-KN30F-ECT
					Arm 2	R88D-KN30F-ECT
					Arm 3	R88D-KN30F-ECT
①	CR_UGD4_XL_R	2 kg	Ø 1,300 x 250 mm (Max. 400)	3 + 1 axes	Arm 1	R88D-KN15H-ECT
					Arm 2	R88D-KN15H-ECT
					Arm 3	R88D-KN15H-ECT
					Rotational 4	R88D-KN15H-ECT
	CR_UGD4_XL_NR			3 axes	Arm 1	R88D-KN15H-ECT
					Arm 2	R88D-KN15H-ECT
					Arm 3	R88D-KN15H-ECT
①	CR_UGD4_R	2 kg	Ø 1,100 x 250 mm (Max. 400)	3 + 1 axes	Arm 1	R88D-KN15H-ECT
					Arm 2	R88D-KN15H-ECT
					Arm 3	R88D-KN15H-ECT
					Rotational 4	R88D-KN15H-ECT
	CR_UGD4_NR			3 axes	Arm 1	R88D-KN15H-ECT
					Arm 2	R88D-KN15H-ECT
					Arm 3	R88D-KN15H-ECT
① 	CR_UGD4MINI_R CR_UGD4MINI_R_TS*1	1 kg	Ø 500 x 130 mm (Max. 175)	3 + 1 axes	Arm 1	R88D-KN04H-ECT
					Arm 2	R88D-KN04H-ECT
					Arm 3	R88D-KN04H-ECT
					Rotational 4	R88D-KN04H-ECT
	CR_UGD4MINI_NR CR_UGD4MINI_NR_TS*1		Ø 500 x 155 mm (Max. 200)	3 axes	Arm 1	R88D-KN04H-ECT
					Arm 2	R88D-KN04H-ECT
					Arm 3	R88D-KN04H-ECT

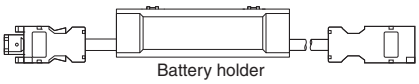
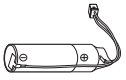
*1. The CR_UGD4MINI_□_TS models are delivered standard with stainless steel + titanium secondary arms.

Encoder cables

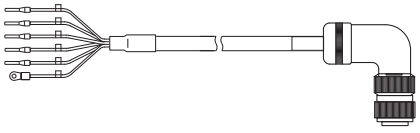
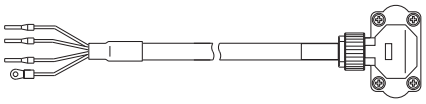
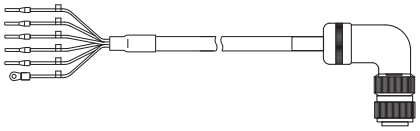
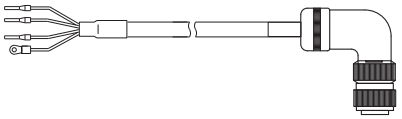
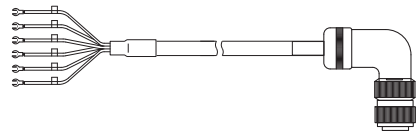
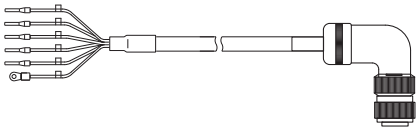
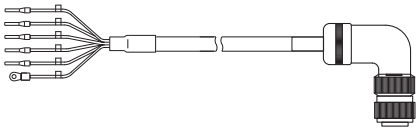
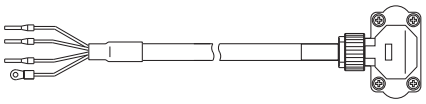
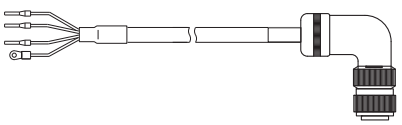
Symbol	Applicable Delta robots		Model	Appearance
③	CR_UGD4_XL_□_HD□ (Arm 1, 2, 3)*1 CR_UGD4_□_HD□ (Arm 1, 2, 3)*1 CR_UGD4_XS_□_HD□ (Arm 1, 2, 3)*1 R6Y3□110□03067NJ5 CR_UGD4_XXLH CR_UGD4_XXL1300H CR_UGD4_XL CR_UGD4 R6Y3□065□02067NJ5 (Rotational axis 4)	1.5 m	R88A-CRKC001-5NR-E	
		3 m	R88A-CRKC003NR-E	
		5 m	R88A-CRKC005NR-E	
		10 m	R88A-CRKC010NR-E	
		15 m	R88A-CRKC015NR-E	
		20 m	R88A-CRKC020NR-E	
	CR_UGD4_XL_□_HD□ (Rotational axis 4)*1 CR_UGD4_□_HD□ (Rotational axis 4)*1 CR_UGD4_XS_□_HD□ (Rotational axis 4)*1 R6Y3□065□02067NJ5 (Arm 1, 2, 3) CR_UGD4MINI_□_TS CR_UGD4MINI	1.5 m	R88A-CRKA001-5CR-E	
		3 m	R88A-CRKA003CR-E	
		5 m	R88A-CRKA005CR-E	
		10 m	R88A-CRKA010CR-E	
		15 m	R88A-CRKA015CR-E	
		20 m	R88A-CRKA020CR-E	

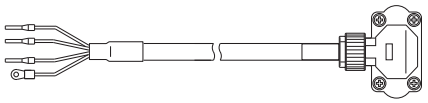
*1. The models with IP69K protection class include the encoder cables.

Absolute encoder battery cable (encoder extension cable only)

Symbol	Specifications			Model	Appearance
④	Absolute encoder battery cable	Battery not included	0.3 m	R88A-CRGD0R3C-E	 Battery holder
		Battery included	0.3 m	R88A-CRGD0R3C-BS-E	
	Absolute encoder backup battery	2,000 mA, 3.6 V	-	R88A-BAT01G	

Power and brake cables

Symbol	Applicable Delta robots				Model	Appearance
⑤	CR_UGD4_XL_□_HD□*1 CR_UGD4_□_HD□ CR_UGD4_XS_□_HD□	Arm 1, 2, 3	Power cable with brake	1.5 m	R88A-CAGB001-5BR-E	
				3 m	R88A-CAGB003BR-E	
				5 m	R88A-CAGB005BR-E	
				10 m	R88A-CAGB010BR-E	
				15 m	R88A-CAGB015BR-E	
				20 m	R88A-CAGB020BR-E	
		Rotational axis 4	Power cable without brake	1.5 m	R88A-CAKA001-5SR-E	
				3 m	R88A-CAKA003SR-E	
				5 m	R88A-CAKA005SR-E	
				10 m	R88A-CAKA010SR-E	
				15 m	R88A-CAKA015SR-E	
				20 m	R88A-CAKA020SR-E	
			Brake cable	1.5 m	R88A-CAKA001-5BR-E	
				3 m	R88A-CAKA003BR-E	
				5 m	R88A-CAKA005BR-E	
				10 m	R88A-CAKA010BR-E	
				15 m	R88A-CAKA015BR-E	
				20 m	R88A-CAKA020BR-E	
	R6Y3□110□03067NJ5	Arm 1, 2, 3	Power cable with brake	1.5 m	R88A-CAGB001-5BR-E	
				3 m	R88A-CAGB003BR-E	
				5 m	R88A-CAGB005BR-E	
				10 m	R88A-CAGB010BR-E	
				15 m	R88A-CAGB015BR-E	
				20 m	R88A-CAGB020BR-E	
		Rotational axis 4	Power cable without brake	1.5 m	R88A-CAGB001-5SR-E	
				3 m	R88A-CAGB003SR-E	
				5 m	R88A-CAGB005SR-E	
				10 m	R88A-CAGB010SR-E	
				15 m	R88A-CAGB015SR-E	
				20 m	R88A-CAGB020SR-E	
	CR_UGD4_XXLH CR_UGD4_XXL1300H	Arm 1, 2, 3	Power cable with brake	1.5 m	R88A-CAGD001-5BR-E	
				3 m	R88A-CAGD003BR-E	
				5 m	R88A-CAGD005BR-E	
				10 m	R88A-CAGD010BR-E	
				15 m	R88A-CAGD015BR-E	
				20 m	R88A-CAGD020BR-E	
		Rotational axis 4	Power cable with brake	1.5 m	R88A-CAKF001-5BR-E	
				3 m	R88A-CAKF003BR-E	
				5 m	R88A-CAKF005BR-E	
				10 m	R88A-CAKF010BR-E	
				15 m	R88A-CAKF015BR-E	
				20 m	R88A-CAKF020BR-E	
	CR_UGD4_XL CR_UGD4	Arm 1, 2, 3 and rotational axis 4	Power cable with brake	1.5 m	R88A-CAGB001-5BR-E	
				3 m	R88A-CAGB003BR-E	
				5 m	R88A-CAGB005BR-E	
				10 m	R88A-CAGB010BR-E	
				15 m	R88A-CAGB015BR-E	
				20 m	R88A-CAGB020BR-E	
	R6Y3□065□02067NJ5	Arm 1, 2, 3	Power cable without brake	1.5 m	R88A-CAKA001-5SR-E	
				3 m	R88A-CAKA003SR-E	
				5 m	R88A-CAKA005SR-E	
				10 m	R88A-CAKA010SR-E	
				15 m	R88A-CAKA015SR-E	
				20 m	R88A-CAKA020SR-E	
			Brake cable	1.5 m	R88A-CAKA001-5BR-E	
				3 m	R88A-CAKA003BR-E	
				5 m	R88A-CAKA005BR-E	
				10 m	R88A-CAKA010BR-E	
				15 m	R88A-CAKA015BR-E	
				20 m	R88A-CAKA020BR-E	
		Rotational axis 4	Power cable without brake	1.5 m	R88A-CAGB001-5SR-E	
				3 m	R88A-CAGB003SR-E	
				5 m	R88A-CAGB005SR-E	
				10 m	R88A-CAGB010SR-E	
				15 m	R88A-CAGB015SR-E	
				20 m	R88A-CAGB020SR-E	

Symbol	Applicable Delta robots				Model	Appearance
⑤	CR_UGD4MINI_□_TS CR_UGD4MINI	Arm 1, 2, 3 and rotational axis 4	Power cable without brake	1.5 m	R88A-CAKA001-5SR-E	
				3 m	R88A-CAKA003SR-E	
				5 m	R88A-CAKA005SR-E	
				10 m	R88A-CAKA010SR-E	
				15 m	R88A-CAKA015SR-E	
				20 m	R88A-CAKA020SR-E	
			Brake cable	1.5 m	R88A-CAKA001-5BR-E	
				3 m	R88A-CAKA003BR-E	
				5 m	R88A-CAKA005BR-E	
				10 m	R88A-CAKA010BR-E	
				15 m	R88A-CAKA015BR-E	
				20 m	R88A-CAKA020BR-E	

*1. The models with IP69K protection class include the power and brake cables.

Vision

Name	Type		Model
⑥ FQ-M series	Color	NPN	FQ-MS120-ECT
		PNP	FQ-MS125-ECT
	Monochrome	NPN	FQ-MS120-M-ECT
		PNP	FQ-MS125-M-ECT

Machine controller

Name		Functions	Delta robot control	Axes	Model
⑦ NJ Robotics	CPU unit	Logic sequence, motion, robotics and database connection	Control of up to 8 Delta robot depending on the number of axes supported by the CPU	16	NJ501-4320
		Logic sequence, motion and robotics		64	NJ501-4500
				32	NJ501-4400
				16	NJ501-4300
			Control of one Delta robot	16	NJ501-4310
	Power supply unit				NJ-PA3001 (220 VAC)
					NJ-PD3001 (24 VDC)

Accessories

Name	Applicable Delta robots	Specifications	Model
Anti-collision detection option	R6Y3□110□03067NJ5 R6Y3□065□02067NJ5	Connectors mounted between the TCP flange and the arms	R6YACAD01

Computer software

Specifications	Model
Sysmac Studio version 1.03 or higher	SYSMAC-SE2□□□

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. SysCat_I193E-EN-07C In the interest of product improvement, specifications are subject to change without notice.