

Robotics

Compact Catalogue



The Power of Automation

Increased Sustainability

monitor, track and trace processes to improve overall efficiency

Cost Savings

save money on operational costs, as well as reduce the risk of human error

Improved Quality

ensure consistent and improved quality in products and services, while reducing defects and errors

Greater Scalability

handle higher volumes of work by replicating solutions after the first development

Enhanced Safety

reduce the need for humans to perform dangerous or hazardous tasks

Increased Innovation

leverage automation to create new processes and products

Customer Satisfaction

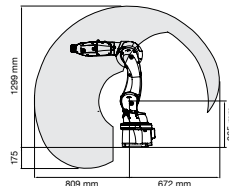
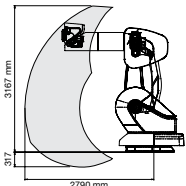
improve response consistency in customer service, leading to increased customer satisfaction

Automation Meets Smart Factories

In Comau's Smart Factory, operators and robots can work in close contact and in complete safety thanks to collaborative robotics. Cobots are assigned all the heaviest and most repetitive operations, leaving human operators free to carry out more specialist and less fatiguing tasks and to work directly with the robots to perform tasks more effectively.

The **Racer-5 Sensitive Environments** is a cleanroom-classified, element-resistant high speed industrial robot designed for industrial sectors, such as Pharma and Cosmetics, Machine tending, Food&Beverage and Battery Cell Manufacturing where particular conditions and specific applications are needed.

COLLABORATIVE ROBOTS



Model	AURA-170-2.8
Structure / No. of axes	Anthropomorphic / 6 axes
Maximum wrist payload	170 kg
Maximum horizontal reach	2790 mm
Torque on axis 4	1010 Nm
Torque on axis 5	804 Nm
Torque on axis 6	412 Nm
Motion range (Max Speed)	
Axis 1	+/- 180° (100 °/s)
Axis 2	+85° / -20° (85 °/s)
Axis 3	-50° / -220° (100 °/s)
Axis 4	+/- 180° (130 °/s)
Axis 5	+/- 180° (140 °/s)
Axis 6	+/- 180° (190 °/s)
Repeatability	+/-0,1 mm
Tool coupling flange ISO	9409 - 1 - A 125 9409 - 1 - A 160
Robot weight	1615 kg
Motors	AC brushless
Position measurement system	encoders
Total power installed	8 kVA
Working temperature	0 / +45°C
Storage temperature	-25°C / +55°C
Robot color	blue and gray
Mounting position	Floor
Maximum linear speed	up to 2000 mm/s*
Maximum collaborative linear speed	up to 500 mm/s

Model	Racer-5-0.80 COBOT
Structure / No. of axes	Anthropomorphic / 6 axes
Maximum wrist payload	5 kg
Nominal wrist load	1 kg
Maximum horizontal reach	809 mm
Torque on axis 4	8,83 Nm
Torque on axis 5	8,83 Nm
Torque on axis 6	4,91 Nm
Admissible inertia on axis 4*	0,42 kg x m ²
Admissible inertia on axis 5*	0,42 kg x m ²
Admissible inertia on axis 6*	0,18 kg x m ²
Motion range (Max Speed)	
Axis 1	+/- 170° (360 °/s) **
Axis 2	-64° / +114° (300 °/s) **
Axis 3	-150° / +60° (330 °/s) **
Axis 4	+/- 200° (500 °/s) **
Axis 5	-105° / +100° (500 °/s) **
Axis 6	+/- 2700° (800 °/s) **
Repeatability	+/-0,03 mm
Robot weight	34 kg
Features of the tool coupling Robot wrist	ISO 9409 - 1 - A 25
Motors	AC Brushless
Position measurement system	Encoder
Protection degree	IP54
Mounting position	Floor, wall, ceiling
Working temperature	5°C / +40°C
Storage temperature	-10°C / 55°C
Maximum temperature gradient	1,5°C/min

* Not allowed with maximum load
** Maximum speed
*** Base vertical cable output available (option)

WEARABLE ROBOTICS

The MATE exoskeletons generate a steady reduction at the lumbar or shoulder muscle activation during overhead activities and manual handling of weights from the ground, improving ergonomics, posture and reducing muscular strain.

MATE-XT

Mechanically powered exoskeleton (no batteries, no motors), for relieving the muscular effort at the shoulder district for workers operating with elevated arm(s) by providing physiological assistance in repetitive and static tasks



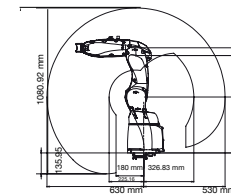
MATE-XB

Non-powered exoskeleton for reducing the fatigue at the lumbar district for workers engaged in moving weights. It supports the user while working in different static positions or during repetitive lifting of loads



For more information, please visit: mate.comau.com

SENSITIVE ENVIRONMENTS



Model	Racer-5 SE
Structure / No. of axes	6 axes
Maximum wrist payload	5 kg
Nominal wrist load	1 kg
Maximum horizontal reach	630mm (2.07ft) 809mm (2.65ft)
Torque on axis 4	8,83 Nm
Torque on axis 5	8,83 Nm
Torque on axis 6	4,91 Nm
Admissible inertia on axis 4*	0,42 kg x m ²
Admissible inertia on axis 5*	0,42 kg x m ²
Admissible inertia on axis 6*	0,18 kg x m ²
Motion range (Max Speed)	
Axis 1	+/- 170° (400 °/s) **
Axis 2	-95° / +135 ° (360 °/s) -85° / +135 ° (360 °/s)
Axis 3	-155° / +90° (400 °/s) **
Axis 4	+/- 200° (500 °/s) **
Axis 5	+/- 125° (500 °/s) **
Axis 6	+/- 2700° (800 °/s) **
Repeatability	+/-0,03 mm (1.18 mil)
Robot weight	33 kg (73 lb) 35 kg (77 lb)
Features of the tool coupling Robot wrist	ISO 9409 - 1 - A 25
Motors	AC Brushless
Position measurement system	Encoder
Protection degree	IP67
Mounting position	Floor / Ceiling / Wall **
Working temperature	from 0°C to +45°C (from +32°F to +113°F)
Storage temperature	from -10°C to +55°C (from +14°F to +131°F)
Maximum temperature gradient	1,5°C/min
ISO 14644-1 CleanRoom Certification assessment	ISO 6***
Use of Food Approved gaskets	Yes
Use of NSF H1	Yes

*In the case of angle mounted Robot, the stroke of axis 1 must be limited according to the inclination of the angle itself and the payload. ** Not allowed with maximum load *** Guaranteed up to 80% angular speed of the Robot axes
(Axis 1: max. 320°/s; Axis 2: max. 288°/s; Axis 3: max. 320°/s; Axis 4: max. 400°/s; Axis 5: max. 400°/s; Axis 6: max. 640°/s).

AUTOMATED GUIDED VEHICLE (AGV)



Model	Agile2500
External dimensions (LxWxH)	3903 x 1414 x 400 mm
Weight	1500 kg
Maximum payload	2500 kg
Maximum speed	1.0 m/s in all directions (including crabbing)
Navigation type	Natural; Reflector
Maximum ramp grade	1%
Operating environment	Indoor
Battery type	Lithium
Battery characteristics	25.6 Vdc - 204 Ah
Implements interfacing and communication	
Power supply	24 Vdc Power, 24 Vdc Auxiliary
Communication	CANopen fieldbus, TCP/IP

Small and medium robots, fast, precise and flexible



Robots

		Small						
Model		RACER-3-0.63	RACER-5-0.63	RACER-5-0.80	RACER-7-1.4	S-13	S-18	
Number of axes		6	6	6	6	6	6	
Maximum wrist payload		3 kg	5 kg	5 kg	7 kg	13 kg	18 kg	
Additional load on forearm		-	-	-	10 kg	10 kg	10 kg	
Maximum horizontal reach		630 mm	630 mm	809 mm	1436 mm	1960 mm	1730 mm	
Torque on axis 4		7.36 Nm	8.83 Nm	8.83 Nm	13 Nm	35 Nm	50 Nm	
Torque on axis 5		7.36 Nm	8.83 Nm	8.83 Nm	13 Nm	35 Nm	50 Nm	
Torque on axis 6		4.41 Nm	4.91 Nm	4.91 Nm	7.5 Nm	22 Nm	30 Nm	
Motion range (Max Speed)	Axis 1	+/- 170° (430 °/s)	+/- 170° (400 °/s)	+/- 170° (360 °/s)	+/- 165° (220 °/s)	+/- 180° (205 °/s)	+/- 180° (205 °/s)	
	Axis 2	-85° / +135° (450 °/s)	-85° / +135° (380 °/s)	-95° / +135° (300 °/s)	-85° / +155° (300 °/s)	-90° / +160° (180 °/s)	-90° / +160° (180 °/s)	
	Axis 3	-155° / +90° (500 °/s)	-155° / +90° (400 °/s)	-155° / +90° (330 °/s)	0° / -188° (300 °/s)	-175° / +90° (260 °/s)	-175° / +90° (260 °/s)	
	Axis 4	+/- 200° (600 °/s)	+/- 200° (500 °/s)	+/- 200° (500 °/s)	+/- 210° (600 °/s)	+/- 200° (400 °/s)	+/- 200° (400 °/s)	
	Axis 5	+/- 125° (600 °/s)	+/- 125° (500 °/s)	+/- 125° (500 °/s)	+/- 135° (600 °/s)	+/- 123° (400 °/s)	+/- 123° (400 °/s)	
	Axis 6	+/- 2700° (900 °/s)	+/- 2700° (800 °/s)	+/- 2700° (800 °/s)	+/- 2700° (650 °/s)	+/- 2700° (635 °/s)	+/- 2700° (635 °/s)	
Repeatability		0.02 mm	0.03 mm	0.03 mm	0.03 mm	+/- 0.03 mm	+/- 0.03 mm	
Tool coupling flange ISO		9409 - 1 - A 25	9409 - 1 - A 25	9409 - 1 - A 25	9409 - 1 - A 40	ISO 9409-1-A50	ISO 9409-1-A50	
Robot weight		30 kg	30 kg	32 kg	180 kg	270 kg	265 kg	
Protection class		IP54	IP54	IP54	IP54	IP65 (wrist IP68)	IP65 (wrist IP68)	
Mounting position		Floor	Floor	Floor	Floor	Floor	Floor	
		Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	
		Wall	Wall	Wall	Wall	Wall	Wall	
		-	-	-	Sloped (45° max)	Inclined Plane	Inclined Plane	
Operating area type		Type 1	Type 1	Type 1	Type 2	Type 2	Type 1	
Operating areas		A	1081 mm	1081 mm	1124 mm	1716 mm	2273 mm	2039 mm
		B	630 mm	630 mm	809 mm	1436 mm	1959 mm	1725 mm
		C	37 mm	37 mm	8 mm	412 mm	1123 mm	1039 mm
		D	530 mm	530 mm	708 mm	1130 mm	1659 mm	1425 mm
		E	136 mm	136 mm	286 mm	801 mm	1299 mm	1065 mm
		F	-	-	-	-	-	-
		Base vertical cable output available			ARC version available			

		Medium			
Model		NJ-16-3.1	NJ-40-2.5	NJ-60-2.2	
Number of axes		6	6	6	
Maximum wrist payload		16 kg	40 kg	60 kg	
Additional load on forearm		12 kg	35 kg	20 kg	
Maximum horizontal reach		3108 mm	2503 mm	2258 mm	
Torque on axis 4		43 Nm	167 Nm	221 Nm	
Torque on axis 5		43 Nm	167 Nm	221 Nm	
Torque on axis 6		23 Nm	98 Nm	118 Nm	
Motion range (Max Speed)	Axis 1	+/- 180° (170 °/s)	+/- 180° (170 °/s)	+/- 180° (170 °/s)	
	Axis 2	-60° / +125° (150 °/s)	-60° / +125° (150 °/s)	-60° / +125° (150 °/s)	
	Axis 3	0° / -170° (165 °/s)	0° / -165° (165 °/s)	0° / -165° (165 °/s)	
	Axis 4	+/- 2700° (265 °/s)	+/- 2700° (265 °/s)	+/- 2700° (265 °/s)	
	Axis 5	+/- 120° (250 °/s)	+/- 123° (250 °/s)	+/- 123° (250 °/s)	
	Axis 6	+/- 2700° (340 °/s)	+/- 2700° (550 °/s)	+/- 2700° (340 °/s)	
Repeatability		0.10 mm	0.06 mm	0.06 mm	
Tool coupling flange ISO		9409 - 1 - A63	9409 - 1 - A100	9409 - 1 - A100	
Robot weight		680 kg	655 kg	645 kg	
Protection class		IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	
Mounting position		Floor	Floor	Floor	
		Ceiling	Ceiling	Ceiling	
		Wall	Wall	Wall	
		-	Sloped (45° max)	Sloped (45° max)	
Operating area type		Type 2	Type 2	Type 2	
Operating areas		A	3258 mm	2653 mm	2408 mm
		B	3108 mm	2503 mm	2258 mm
		C	2576 mm	2165 mm	1918 mm
		D	1088 mm	720 mm	686 mm
		E	1625 mm	1187 mm	941 mm
		F	-	-	-
		ARC version available	Off-set wrist version available		

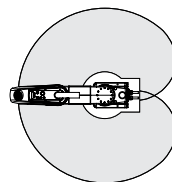
		Special					
Model		PAL-180-3.1	PAL-260-3.1	PAL-470-3.1	NJ-100-3.2 PRESS	NJ-130-3.7 SH PRESS	
Number of axes		4	4	5	6	6	
Maximum wrist payload		180 kg	260 kg	470 kg	100 kg	130 kg	
Additional load on forearm		25 kg	50 kg	25 kg	50 kg	15 kg	
Maximum horizontal reach		3100 mm	3100 mm	3100 mm	3209 mm	3741 mm	
Torque on axis 4		-	-	-	638 Nm	1225 Nm	
Torque on axis 5		-	-	-	638 Nm	1225 Nm	
Torque on axis 6		-	-	-	280 Nm	648 Nm	
Motion range (Max Speed)	Axis 1	+/- 180° (120 °/s)	+/- 180° (120 °/s)	+/- 180° (85 °/s)	+/- 180° (120 °/s)	+/- 180° (120 °/s)	
	Axis 2	-49° / +95° (100 °/s)	-49° / +95° (90 °/s)	-60° / +75° (85 °/s)	-49° / +95° (108 °/s)	-60° / +170° (90 °/s)	
	Axis 3	-68° / -208° (110 °/s)	-68° / -208° (110 °/s)	-45° / -205° (85 °/s)	-222° / -68° (120 °/s)	-292° / -21° (112 °/s)	
	Axis 4	-	-	-	+/- 200° (190 °/s)	+/- 2700° (180 °/s)	
	Axis 5	-	-	-	Axis bound to balance	+/- 120° (190 °/s)	
	Axis 6	+/- 2700° (280 °/s)	+/- 2700° (260 °/s)	+/- 2700° (180 °/s)	+/- 200° (250-275 °/s)	+/- 2700° (250 °/s)	
Repeatability		0.10 mm	0.10 mm	0.15 mm	0.17 mm	0.20 mm	
Tool coupling flange ISO		9409-2-200-6-M12	9409-2-200-6-M12	9409 - 1 - A 200	9409 - 1 - A 125	9409 - 1 - A 160	
Robot weight		1213 kg	1213 kg	2310 kg	1250 kg	1520 kg	
Protection class		IP65	IP65	IP65	IP44 (wrist IP65)	IP44 (wrist IP65)	
Mounting position		Floor	Floor	Floor	Floor	-	
		Ceiling	Ceiling	Ceiling	Ceiling	-	
		Wall	Wall	Wall	Wall	-	
		-	-	Shelf	-	Shelf	
Operating area type		Type 3	Type 3	Type 3	Type 3	Type 4	
Operating areas		A	3147 mm	3147 mm	3522 mm	2780 mm	3391 mm
		B	3099 mm	3099 mm	3050 mm	3209 mm	3741 mm
		C	952 mm	952 mm	480 mm	1035 mm	692 mm
		D	1182 mm	1182 mm	793 mm	642 mm	712 mm
		E	-	-	-	-	2386 mm
		F	-	-	-	-	850 mm

SCARA robots

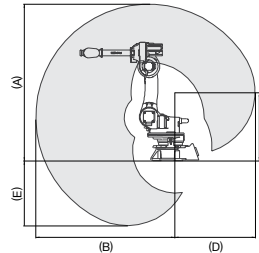
		REBEL-S6-0.45					REBEL-S6-0.60					REBEL-S6-0.60C					REBEL-S6-0.75					REBEL-S6-0.75C				
Payload		6 kg																								
Horizontal reach (radius)		450 mm					600 mm					750 mm														
Vertical reach (Z-stroke)		200 mm																								
Repeatability (X-Y)		0.02 mm																								
Available protection classes		IP10 (IP54 Option)																								
Outer / Inner diameter of ball screw/spline		20 mm / 14 mm																								
Z axis down force (long-time)		160 N																								
Robot weight		20 kg																								
Mounting position		Floor / Wall					Wall / Ceiling					Floor / Wall					Wall / Ceiling									



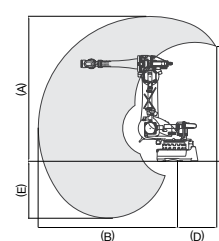
Operating area SCARA



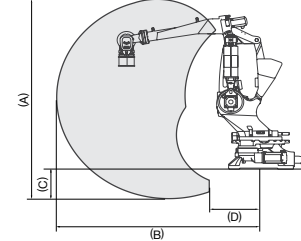
Operating area Type 1



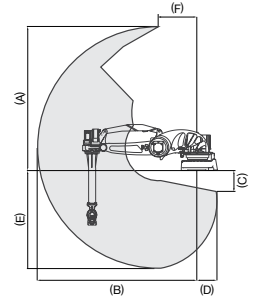
Operating area Type 2



Operating area Type 3



Operating area Type 4

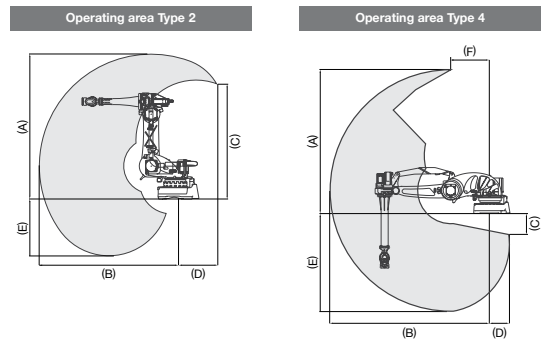


High payload robots: robust and reliable



Robots

		High payload													
Model		NJ-110-3.0	NJ-130-2.0	NJ-130-2.6	NJ-165-3.0	NJ-165-3.4 SH	NJ-210-3.1 SH	NJ-220-2.7	NJ-290-3.0	NJ-370-2.7	NJ-370-3.0	NJ-420-3.0	NJ-450-2.7	NJ-500-2.7	NJ-650-2.7
Number of axes		6													
Maximum wrist payload		110 kg	130 kg	130 kg	165 kg	165 kg	210 kg	220 kg	290 kg	370 kg	370 kg	420 kg	450 kg	500 kg	650 kg
Additional load on forearm		50 kg	50 kg	50 kg	50 kg	25 kg	25 kg	50 kg	50 kg	50 kg	50 kg	50 kg	50 kg	50 kg	50 kg
Maximum horizontal reach		2980 mm	2050 mm	2616 mm	3000 mm	3450 mm	3151 mm	2701 mm	2997 mm	2703 mm	2997 mm	2997 mm	2703 mm	2703 mm	2703 mm
Torque on axis 4		638 Nm	638 Nm	638 Nm	1230 Nm	1089 Nm	1177 Nm	1230 Nm	1668 Nm	2109 Nm	2109 Nm	2109 Nm	2550 Nm	2550 Nm	3060 Nm
Torque on axis 5		638 Nm	638 Nm	638 Nm	1230 Nm	804 Nm	1177 Nm	1230 Nm	1668 Nm	2109 Nm	2109 Nm	2550 Nm	2550 Nm	2550 Nm	3060 Nm
Torque on axis 6		291 Nm	314 Nm	314 Nm	712 Nm	411 Nm	677 Nm	712 Nm	1177 Nm	1177 Nm	1569 Nm	1569 Nm	1569 Nm	1569 Nm	1766 Nm
Motion range (Max Speed)	Axis 1	+/- 180° (110 °/s)	+/- 180° (155 °/s)	+/- 180° (110 °/s)	+/- 180° (100 °/s)	+/- 180° (85 °/s)	+/- 180° (110 °/s)	+/- 180° (80 °/s)	+/- 180° (85 °/s)	+/- 180° (85 °/s)	+/- 180° (85 °/s)	+/- 180° (85 °/s)	+/- 180° (85 °/s)	+/- 180° (85 °/s)	+/- 180° (75 °/s)
	Axis 2	+95° / -75° (110 °/s)	-60° / +125° (105 °/s)	+95° / -75° (110 °/s)	-95° / +180° (80 °/s)	-50° / +170° (80 °/s)	-50° / +170° (80 °/s)	-95° / +75° (80 °/s)	+75° / -60° (85 °/s)	+75° / -60° (85 °/s)	+75° / -60° (85 °/s)	+75° / -60° (85 °/s)	+75° / -60° (85 °/s)	+75° / -60° (85 °/s)	+75° / -60° (75 °/s)
	Axis 3	-10° / -256° (110 °/s)	0° / -165° (150 °/s)	-10° / -256° (110 °/s)	-10° / -256° (110 °/s)	-18,8° / -288° (110 °/s)	-21° / -288° (110 °/s)	-10° / -256° (110 °/s)	0° / -220° (80 °/s)	-10° / -231° (85 °/s)	-10° / -231° (85 °/s)	-10° / -231° (85 °/s)	-10° / -231° (85 °/s)	-10° / -231° (85 °/s)	-10° / -231° (75 °/s)
	Axis 4	+/- 280° (130 °/s)	+/- 280° (230 °/s)	+/- 280° (130 °/s)	+/- 2700° (130 °/s)	+/- 2700° (130 °/s)	+/- 2700° (130 °/s)	+/- 2700° (105 °/s)	+/- 2700° (105 °/s)	+/- 2700° (90 °/s)	+/- 2700° (90 °/s)	+/- 2700° (90 °/s)	+/- 2700° (90 °/s)	+/- 2700° (90 °/s)	+/- 2700° (80 °/s)
	Axis 5	+/- 120° (90 °/s)	+/- 120° (190 °/s)	+/- 120° (190 °/s)	+/- 125° (130 °/s)	+/- 125° (130 °/s)	+/- 125° (130 °/s)	+/- 125° (105 °/s)	+/- 125° (90 °/s)	+/- 125° (90 °/s)	+/- 125° (90 °/s)	+/- 125° (90 °/s)	+/- 125° (90 °/s)	+/- 125° (90 °/s)	+/- 125° (90 °/s)
	Axis 6	+/- 2700° (230 °/s)	+/- 2700° (230 °/s)	+/- 2700° (230 °/s)	+/- 2700° (195 °/s)	+/- 2700° (195 °/s)	+/- 2700° (195 °/s)	+/- 2700° (195 °/s)	+/- 2700° (120 °/s)	+/- 2700° (120 °/s)	+/- 2700° (120 °/s)	+/- 2700° (120 °/s)	+/- 2700° (120 °/s)	+/- 2700° (120 °/s)	+/- 2700° (120 °/s)
Repeatability		0.07 mm	0.07 mm	0.07 mm	0.09 mm	0.10 mm	0.10 mm	0.08 mm	0.15 mm	0.15 mm	0.15 mm	0.15 mm	0.15 mm	0.15 mm	0.15 mm
Tool coupling flange ISO		9409 - 1 - A 125	9409 - 1 - A 125	9409 - 1 - A 125	9409 - 1 - A 160	9409-1-A 160/200	9409-1-A 160	9409 - 1 - A 160	9409-1-200-6-M12	9409-1-200-6-M12	9409-1-200-6-M12	9409-1-200-6-M12	9409-1-200-6-M12	9409-1-200-6-M12	9409-1-200-6-M12
Robot weight		1070 kg	740 kg	1050 kg	1240 kg	1430 kg	1415 kg	1220 kg	2150 kg	2100 kg	2450 kg	2450 kg	2400 kg	2400 kg	2450 kg
Protection class		IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)	IP65 (wrist IP67)
Mounting position		Floor Ceiling - - -	Floor Ceiling - Sloped -	Floor Ceiling - -	Floor Ceiling - -	- - - Shelf	- - - Shelf	Floor Ceiling - - -	Floor - - - -	Floor - - - -	Floor - - - -	Floor - - - -	Floor - - - -	Floor - - - -	Floor - - - -
Operating area type		Type 2	Type 2	Type 2	Type 2	Type 4	Type 4	Type 2	Type 2	Type 2	Type 2	Type 2	Type 2	Type 2	Type 2
Operating areas	A	3460 mm	2200 mm	3097 mm	3430 mm	3100 mm	2801 mm	3131 mm	3680 mm	3392 mm	3680 mm	3680 mm	3392 mm	3392 mm	3392 mm
	B	2980 mm	2050 mm	2616 mm	3000 mm	3450 mm	3151 mm	2701 mm	2997 mm	2703 mm	2997 mm	2997 mm	2703 mm	2703 mm	
	C	2642 mm	1690 mm	2261 mm	2600 mm	449 mm	547 mm	2286 mm	2922 mm	2617 mm	3195 mm	3195 mm	2895 mm	2895 mm	
	D	757 mm	720 mm	824 mm	730 mm	397 mm	93 mm	786 mm	804 mm	804 mm	433 mm	433 mm	486 mm	486 mm	
	E	783 mm	733 mm	404 mm	738 mm	2100 mm	1800 mm	425 mm	119 mm	-181 mm (****)	119 mm	119 mm	-181 mm (****)	-181 mm (****)	
	F	-	-	-	-	850 mm	850 mm	-	-	-	-	-	-	-	



Best-in-class Hollow Wrist Robots



Robots

		Hollow Wrist							
Model		NJ4-110-2.2	NJ4-220-3.0	NJ4-270-2.7	NJ4-165-3.4 SH	NJ4-210-3.1 SH	N-170-3.0	N-220-2.7	
Number of axes		6	6	6	6	6	6	6	
Maximum wrist payload		110 kg	220 kg	270 kg	165 kg	210 kg	170 kg	220 kg	
Additional load on forearm		10 kg	25 kg	25 kg	50 kg	25 kg	-	50 kg	
Maximum horizontal reach		2210 mm	3002 mm	2703 mm	3377 mm	3188 mm	3000 mm	2670 mm	
Torque on axis 4		796 Nm	1320 Nm	1960 Nm	1089 Nm	1315 Nm	1273 Nm	1270 Nm	
Torque on axis 5		609 Nm	950 Nm	1457 Nm	804 Nm	952 Nm	1273 Nm	1270 Nm	
Torque on axis 6		284 Nm	690 Nm	834 Nm	411 Nm	687 Nm	715 Nm	780 Nm	
Motion range (Max Speed)	Axis 1	+/- 180° (155 °/s)	+/- 180° (90 °/s)	+/- 180° (90 °/s)	+/- 180° (85 °/s)	+/- 180° (85 °/s)	+/- 180° (110°/s)	+/- 180° (120 °/s)	
	Axis 2	-60° / +155° (105 °/s)	-75° / +75° (90 °/s)	-75° / +75° (90 °/s)	-50° / +170° (90 °/s)	+95° / - 75° (110 °/s)	-77° / +76° (100°/s)	-77° / +76° (100 °/s)	
	Axis 3	0° / -165° (150 °/s)	-231° / 0° (90 °/s)	-231° / 0° (90 °/s)	-19,4° / -288° (110 °/s)	-21° / -288° (110 °/s)	-167° / +74° (100°/s)	-167° / +74° (110 °/s)	
	Axis 4	+/- 200° (200 °/s)	+/- 200° (115 °/s)	+/- 200° (115 °/s)	+/- 200° (130 °/s)	+/- 200° (130 °/s)	+/- 200° (140°/s)	+/- 200° (140 °/s)	
	Axis 5	+/- 200° (165 °/s)	+/- 200° (125 °/s)	+/- 200° (125 °/s)	+/- 200° (140 °/s)	+/- 200° (125 °/s)	+/- 200° (140°/s)	+/- 125° (140 °/s)	
	Axis 6	+/- 200° (265 °/s)	+/- 200° (170 °/s)	+/- 200° (170 °/s)	+/- 200° (170 °/s)	+/- 200° (180 °/s)	+/- 200° (210°/s)	+/- 2700° (210 °/s)	
Repeatability		0.07 mm	0.15 mm	0.15 mm	0.10 mm	0.10 mm	0.05 mm	0.05 mm	
Tool coupling flange ISO		9409-1-125-6-M10 9409-1-160-6-M10	9409-1 - A 160 9409-1 - A 200	9409-1 - A 160 9409-1 - A 200	9409-1 - A 160 9409-1 - A 200	9409-1 - A 160 9409-1 - A 200	9409-1 - A 125	9409-1 - A 125	
Robot weight		685 kg	2005 kg	1975 kg	1430 kg	1460 kg	1277 kg	1193 kg	
Protection class		IP65	IP65	IP65	IP65	IP65	IP65	IP65	
Mounting position		Floor	Floor	Floor	-	-	Floor	Floor	
		Ceiling	-	-	-	-	Ceiling	-	
		-	-	-	-	-	-	-	
		-	-	-	Shelf	Shelf	-	-	
Operating area type		Type 5	Type 5	Type 5	Type 4	Type 4	Type 6	Type 6	
Operating areas		A		3392 mm 2703 mm 2617 mm	3027 mm	2837 mm	3963,87 mm	3076,4 mm	
		B	2210 mm		3377 mm	3187 mm	3000,84 mm	2670,5 mm	
		C	1856 mm		804 mm	472 mm	535 mm	1825 mm	
		D	712 mm		-181 mm (***)	323 mm	131 mm	65,185 mm	1552,2 mm
		E	893 mm		-	2027 mm	1837 mm	554,93 mm	222,7 mm
		F	-		-	850 mm	850 mm	-	-

(**) Negative quote means that working area is entirely above the floor level

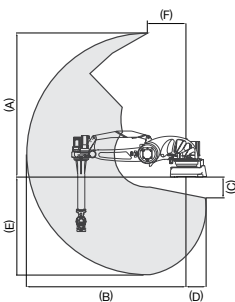
(*) Foundry version also available



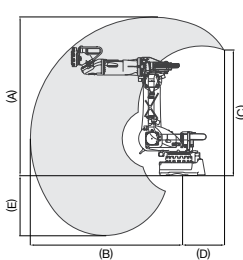
Hollow Wrist robots

Decreased maintenance costs
High density automation is possible
Reliable off-line programming:
shorter application design time and
faster line start-up

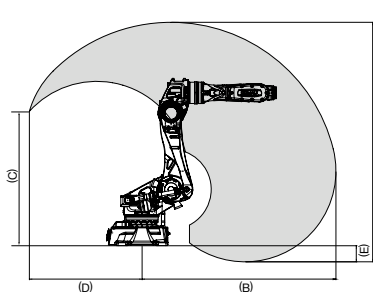
Operating area Type 4



Operating area Type 5



Operating area Type 6



All Your Needs Under Control

Fast processing, modular system for drive units, I/O and fieldbus, free and ergonomic space for application functions integration, compact dimensions. Safe robot controller models allow a safety rated management of the robot motion (joint or cartesian mode) and speed through sensors.

Control units

Model	R1C-4 / R1C-6
Dimensions (WxDxH):	427x496x266 mm
Weight:	23 kg
Working temperature:	5 to 45°C
Humidity:	from 5% to 95% without condensation
Extended line power range:	230V ± 10%
Available for:	R1C-4 > Rebel-S6 R1C-6 > Racer-3/S
SAFE Control:	available version



Model	C5Compact Plus
Dimensions:	582Hx470Wx531D mm
Weight:	44 KG
Working temperature:	5° to 45° C - 41° to 113° F
Humidity:	from 5% to 95% without condensation
Power supply:	form 400 to 480 V
Available for:	Racer 7 - S-family
Cabinet protection:	IP54
Rear compartment protection:	IP 2x
SAFE Control:	available version



Model	C5G Plus Rel.3
Dimensions:	1110Hx800Wx510D mm
Weight:	109 KG
Working temperature:	5° to 45° C - 41° to 113° F
Humidity:	from 5% to 95% without condensation
Power supply:	form 400 to 480 V
Available for:	Racer-7, NS, NJ, NJ4 / PAL (all models)
Cabinet protection:	IP54
Rear compartment protection:	IP 2x
SAFE Control:	available version



Double action vertical positioners

Model	PTDV-500	PTDV-750	PTDV-850
	1,2 - 2,0	1,2 - 2,0	1,2 - 2,5
Payload	2x500 kg	2x750 kg	2x850 kg
Static torque on main axis	1000 Nm	1000 Nm	1000 Nm
Approx. time for 180° changeover	4,9 s	4,7 s	4,8 s



Double action horizontal positioners

Model	PTDO-750-1.2		
	2.0	4.0	4.5
Payload	2x750 kg		
Static torque on main axis	1000 Nm		
Approx. time for 180° changeover	3,7 s		



Orbital single lathe positioner

Model	PTS-ORB-1000
Payload	1000 kg
Max inertia	400 kgm²
Static torque on main axis	1000 Nm



Positioner modules

Model	MP-500	MP-1000	MP-1250	MP-2500	MP-5000
Payload	500 kg	1000 kg	1250 kg	2500 kg	5000 kg
Max inertia	250 kgm²	400 kgm²	400 kgm²	1100 kgm²	2500 kgm²
Static torque on main axis	600 Nm	1000 Nm	1500 Nm	5000 Nm	4000 Nm



Rotary tables

Model	TR-4500	New!	
		RT-1500	RT-3000
Payload	4500 kg	1500 kg	3000 kg
Max inertia	7000 kgm²	780 kgm²	4300 kgm²
Static torque on main axis	4250 Nm	1100 Nm	4500 Nm



Slides

Robot model	FROM NJ-16-3,1 TO NJ-650-2,7
Rail type	TMF4B
Robot mounting position*	0° - 90° - 180° - 270°
Robot Spacer	200 - 300 - 400 - 500 mm
Dressing type Spot (S) / Hand (H)	S / H
Min. net stroke / Step - Single carriage	1510 / 1000
Min. net stroke / Step - Double carriage	760 / 1000



(*) for robot mounting positioning 0° a robot spacer is mandatory



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