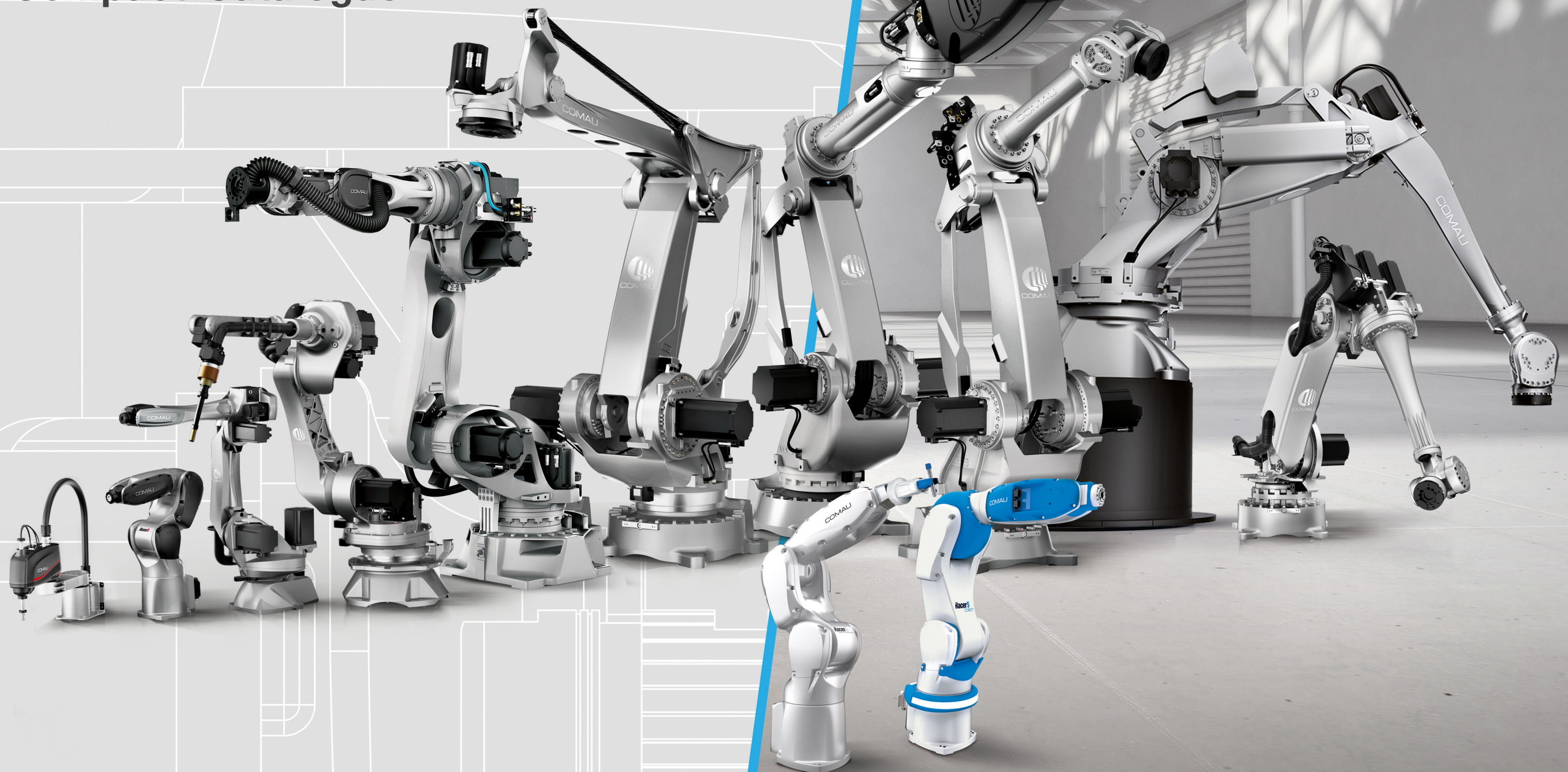


EN

Robotics

Compact Catalogue



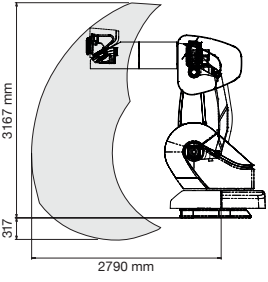
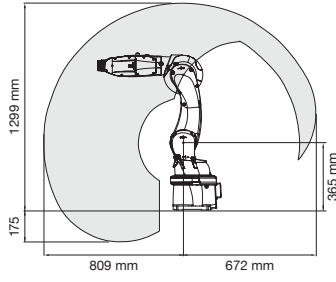
Automation Meets Smart Factories

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.

Discover Racer-5 Sensitive Environments

A cleanroom-classified, element-resistant high speed industrial robot designed for industrial sectors, such as Pharma and Cosmetics, Machine tending and Food&Beverage, where particular conditions and specific applications are needed.

COLLABORATIVE ROBOTS

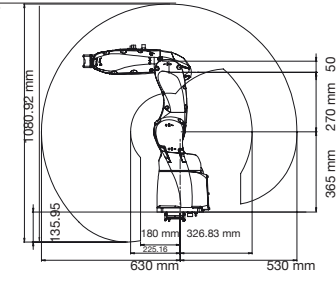
			
Model	AURA-170-2.8	Model	Racer-5-0.80 COBOT
Structure / No. of axes	Anthropomorphic / 6 axes	Structure / No. of axes	Anthropomorphic / 6 axes
Maximum wrist payload	170 kg	Maximum wrist payload	5 kg (11.0 lb)
Maximum horizontal reach	2790 mm	Nominal wrist load	1 kg (2.2 lb)
Torque on axis 4	1010 Nm	Maximum horizontal reach	809 mm
Torque on axis 5	804 Nm	Torque on axis 4	8,83 Nm
Torque on axis 6	412 Nm	Torque on axis 5	8,83 Nm
Stroke (Max Speed)	Axis 1	Torque on axis 6	4,91 Nm
	Axis 2	Admissible inertia on axis 4*	0,42 kg x m ²
	Axis 3	Admissible inertia on axis 5*	0,42 kg x m ²
	Axis 4	Admissible inertia on axis 6*	0,18 kg x m ²
	Axis 5	Stroke (Max Speed)	Axis 1
	Axis 6		Axis 2
Repeatability	+/- 0,1 mm		Axis 3
Tool coupling flange ISO	9409 - 1 - A 125		Axis 4
	9409 - 1 - A 160		Axis 5
Robot weight	1615 kg		Axis 6
Motors	AC brushless	Repeatability	+/- 0,03 mm
Position measurement system	encoders	Robot weight	34 kg
Total power installed	8 kVA	Features of the tool coupling Robot wrist	ISO 9409 - 1 - A 25
Working temperature	0 / +45°C	Motors	AC Brushless
Storage temperature	-25°C / +55°C	Position measurement system	Encoder
Robot color	blue and gray	Protection degree	IP54
Mounting position	Floor	Mounting position	Floor, wall, ceiling
Maximum linear speed	up to 2000 mm/s*	Working temperature	5°C / +40°C
Maximum collaborative linear speed	up to 500 mm/s	Storage temperature	-10°C / 55°C
* Maximum speed not collaborative mode (with additional safety device)		Maximum temperature gradient	1,5°C/min

MATE-XT

The exoskeleton for shoulder and arm assistance during repetitive operations and daily tasks



SENSITIVE ENVIRONMENTS

	
Model	Racer-5-0.80 COBOT
Structure / No. of axes	6 axes
Maximum wrist payload	5 kg (11.0 lb)
Nominal wrist load	1 kg (2.2 lb)
Maximum horizontal reach	
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
Stroke (Max Speed)	Axis 1
	Axis 2
	Axis 3
	Axis 4
	Axis 5
	Axis 6
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 / Inverted / Angle / Wall *2
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

Colour White: RAL 9016; ISO 14644-1 CleanRoom Certification assessment: ISO 6 **
Use of Food Approved gaskets: Yes; Use of NSF H1: Yes
*1 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. *2 Not allowed with maximum load *3 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)

New!

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

Made for System Integration

- Small robots

Fast and precise
- Medium robots

Flexible, with wider working areas
- Medium robots

Dedicated for palletizing and press automation

Designing advanced automation solutions means thinking about the industry in a new way, developing new scenarios, designing innovative products and reating ways to streamline production processes. It requires more than technical competence; it requires a team of professionals whose vision is rooted in a culture of excellence. It also requires a combination of talent, passion and experience that unite to define new trends in automation.

Here at Comau, our passion for our work reflects who we are.

Robots

Small							
Model	RACER-3-0.63	RACER-5-0.63	RACER-5-0.80	RACER-7-1.4	ARC4-5-1.95	NS-12-1.85	NS-16-1.65
Number of axes	6	6	6	6	6	6	6
Maximum wrist payload	3 kg	5 kg*	5 kg	7 kg	5 kg	12 kg	16 kg
Additional load on forearm	-	-	-	10 kg	10 kg	10 kg	10 kg
Maximum horizontal reach	630 mm	630 mm	809 mm	1436 mm	1951 mm	1850 mm	1650 mm
Torque on axis 4	7.36 Nm	8.83 Nm	8.83 Nm	13 Nm	14 Nm	39 Nm	41 Nm
Torque on axis 5	7.36 Nm	8.83 Nm	8.83 Nm	13 Nm	14 Nm	39 Nm	41 Nm
Torque on axis 6	4.41 Nm	4.91 Nm	4.91 Nm	7.5 Nm	4.9 Nm	20 Nm	23 Nm
Stroke (Max Speed)	Axis 1	+/- 170° (430 °/s)	+/- 170° (360 °/s)	+/- 170° (400 °/s)	+/- 165° (220 °/s)	+/- 180° (155 °/s)	+/- 180° (170 °/s)
	Axis 2	-95° / +135° (450 °/s)	-95° / +135° (360 °/s)	-95° / +135° (300 °/s)	-85° / +155° (250 °/s)	-60° / +155° (175 °/s)	-60° / +155° (155 °/s)
	Axis 3	-155° / +90° (500 °/s)	-155° / +90° (400 °/s)	-155° / +90° (330 °/s)	0° / -168° (300 °/s)	-170° / +110° (185 °/s)	-170° / +110° (170 °/s)
	Axis 4	+/- 200° (600 °/s)	+/- 200° (500 °/s)	+/- 200° (500 °/s)	+/- 210° (600 °/s)	+/- 2700° (360 °/s)	+/- 2700° (360 °/s)
	Axis 5	+/- 125° (600 °/s)	+/- 125° (500 °/s)	+/- 125° (500 °/s)	+/- 135° (600 °/s)	+/- 120° (350 °/s)	+/- 120° (350 °/s)
	Axis 6	+/- 2700° (900 °/s)	+/- 2700° (800 °/s)	+/- 2700° (800 °/s)	+/- 2700° (650 °/s)	+/- 2700° (550 °/s)	+/- 2700° (550 °/s)
Repeatability	0.02 mm	0.03 mm	0.03 mm	0.03 mm	0.05 mm	0.05 mm	0.05 mm
Tool coupling flange ISO	9409 - 1 - A 25	9409 - 1 - A 25	9409 - 1 - A 25	9409 -1- A 40	9409-1-63-4-M6	9409 - 1 - A63	9409 - 1 - A63
Robot weight	30 kg	30 kg	32 kg	180 kg	375 kg	335 kg	333 kg
Protection class	IP54	IP54	IP54	IP54	IP65	IP65/67 (Foundry)	IP65/67 (Foundry)
Mounting position	Floor	Floor	Floor	Floor	Floor	Floor	Floor
	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling
	Wall	Wall**	Wall**	-	-	-	-
	-	-	-	Sloped (45° max)	Sloped (45° max)	Sloped (45° max)	Sloped (45° max)
Operating area type							
Operating areas	Type 1	Type 1	Type 1	Type 2	Type 2	Type 1	Type 1
	A	1081 mm	1081 mm	1124 mm	1716 mm	2251 mm	1951 mm
	B	630 mm	630 mm	809 mm	1436 mm	1951 mm	1651 mm
	C	37 mm	37 mm	8 mm	412 mm	49 mm	950 mm
	D	530 mm	530 mm	708 mm	1130 mm	1257 mm	957 mm
	E	136 mm	136 mm	286 mm	801 mm	986 mm	685 mm

- Base vertical cable output available

* For Pick&Place 6 kg with a limited stroke of the 5° axis

** Allowable with payload limitations
- ARC version available

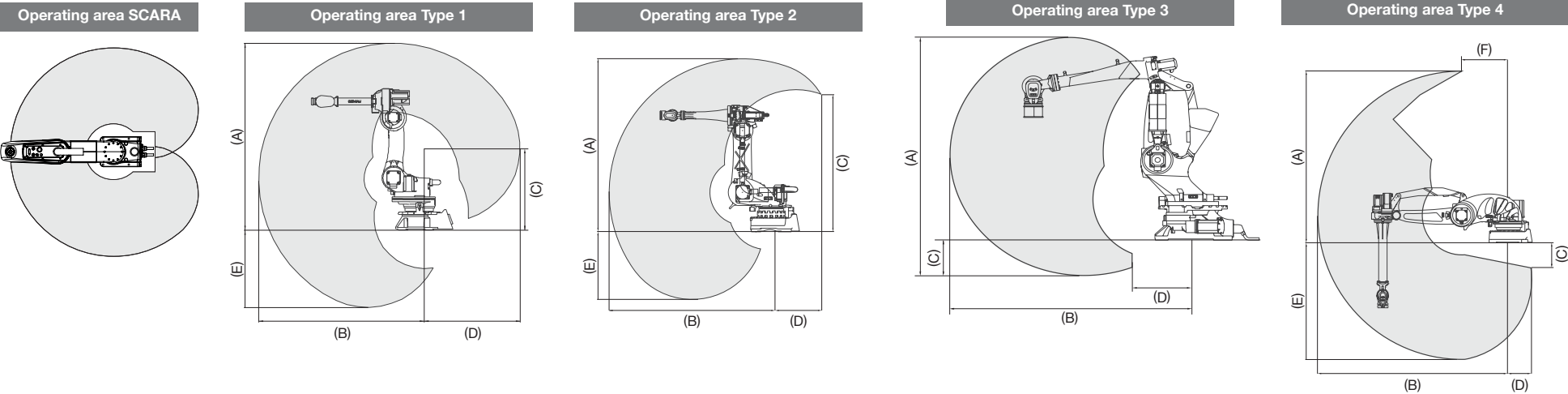
Medium		
Model	NJ-16-3.1	NJ-40-2.5
6	6	6
16 kg	40 kg	60 kg
12 kg	35 kg	20 kg
3108 mm	2503 mm	2258 mm
43 Nm	167 Nm	221 Nm
43 Nm	167 Nm	221 Nm
23 Nm	98 Nm	118 Nm
+/- 180° (170 °/s)	+/-180° (170 °/s)	+/- 180° (170 °/s)
-60° / +125° (150 °/s)	-60° / + 125° (150 °/s)	-60° / +125° (150 °/s)
0° / -170° (165 °/s)	0° / -165° (165 °/s)	0° / -165° (165 °/s)
+/- 2700° (265 °/s)	+/- 2700° (265 °/s)	+/- 2700° (265 °/s)
+/- 120° (250 °/s)	+/- 123° (250 °/s)	+/- 123° (250 °/s)
+/- 2700° (340 °/s)	+/- 2700° (550 °/s)	+/- 2700° (340 °/s)
0.10 mm	0.06 mm	0.06 mm
9409 - 1 - A63	9409 - 1 - A100	9409 - 1 - A100
680 kg	655 kg	645 kg
IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)
Floor	Floor	Floor
Ceiling	Ceiling	Ceiling
-	-	-
Sloped (45° max)	Sloped (45° max)	Sloped (45° max)
-	-	-
Type 2	Type 2	Type 2
3258 mm	2653 mm	2408 mm
3108 mm	2503 mm	2258 mm
2576 mm	952 mm	1918 mm
1088 mm	720 mm	686 mm
1625 mm	1187 mm	941 mm
-	-	-

Off-set wrist version available

Special				
Model	PAL-180-3.1	PAL-260-3.1	PAL-470-3.1	NJ-100-3.2 PRESS
4	4	5	6	6
180 kg	260 kg	470 kg	100 kg	130 kg
25 kg	50 kg	25 kg	50 kg	15 kg
3100 mm	3100 mm	3100 mm	3209 mm	3741 mm
-	-	-	638 Nm	1225 Nm
-	-	-	638 Nm	1225 Nm
-	-	-	280 Nm	648 Nm
+/- 180° (120 °/s)	+/- 180° (120 °/s)	+/- 180° (85 °/s)	+/- 180° (120 °/s)	+/- 180° (120 °/s)
-49° / +95° (100 °/s)	-49° / + 95° (90 °/s)	-60° / +75° (85 °/s)	-49° / +95° (108 °/s)	-60° / +170° (90 °/s)
-68° / -208° (110 °/s)	-68° / -208° (110 °/s)	-45° / -205° (85 °/s)	-222° / -68° (120 °/s)	-292° / -21° (112 °/s)
-	-	Axis bound to balance	+/- 200° (190 °/s)	+/- 2700° (180 °/s)
-	-	-	+/- 120° (190 °/s)	+/- 125° (175 °/s)
+/- 2700° (280 °/s)	+/- 2700° (260 °/s)	+/- 2700° (180 °/s)	+/- 200° (250-275 °/s)	+/- 2700° (250 °/s)
0.10 mm	0.10 mm	0.15 mm	0.17 mm	0.20 mm
9409-2-200-6-M12	9409-2-200-6-M12	9409 - 1 - A 200	9409 - 1 - A 125	9409 - 1 - A 160
1213 kg	1213 kg	2310 kg	1250 kg	1520 kg
IP65	IP65	IP65	IP44 / IP65 Wrist	IP44 / IP65 Wrist
Floor	Floor	Floor	Floor	-
-	-	-	-	-
-	-	-	-	-
-	-	Shelf	-	-
-	-	-	-	Shelf
Type 3	Type 3	Type 3	Type 3	Type 4
3147 mm	3147 mm	3522 mm	2780 mm	3391 mm
3099 mm	3099 mm	3050 mm	3209 mm	3741 mm
952 mm	952 mm	480 mm	1035 mm	692 mm
1182 mm	1182 mm	793 mm	642 mm	712 mm
-	-	-	-	2386 mm
-	-	-	-	850 mm

SCARA robots

Model	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	



When Performance Matters

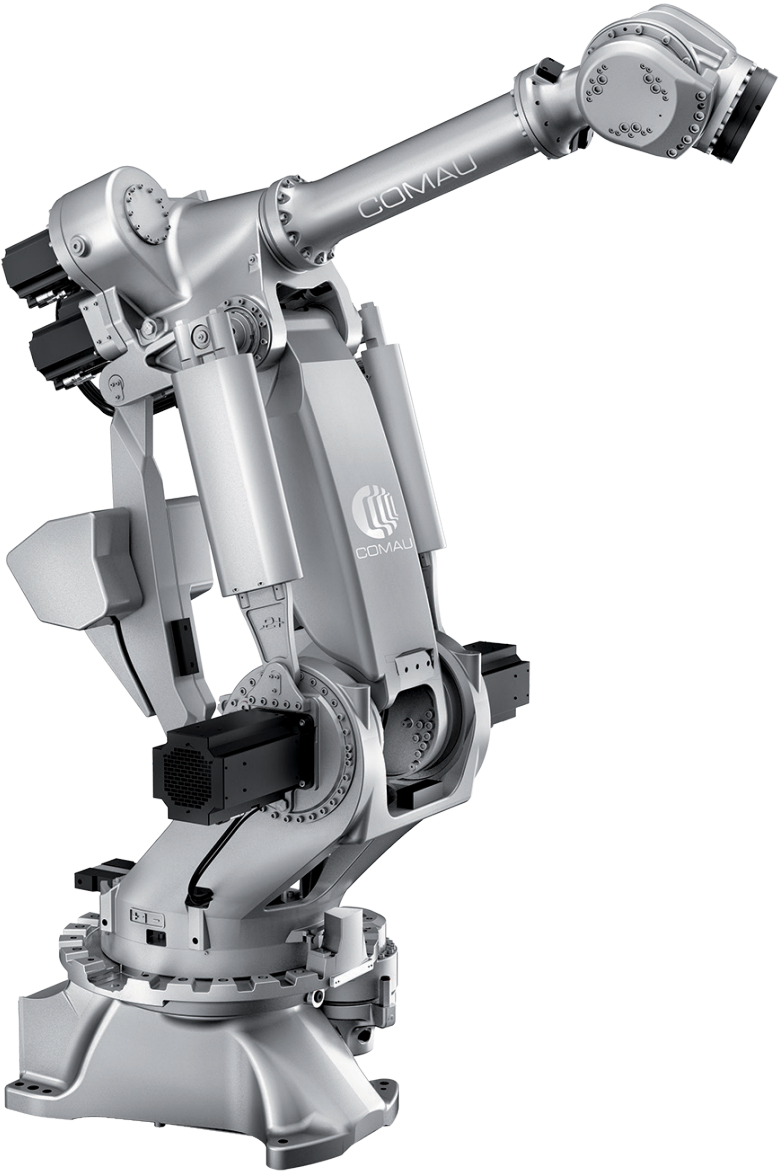
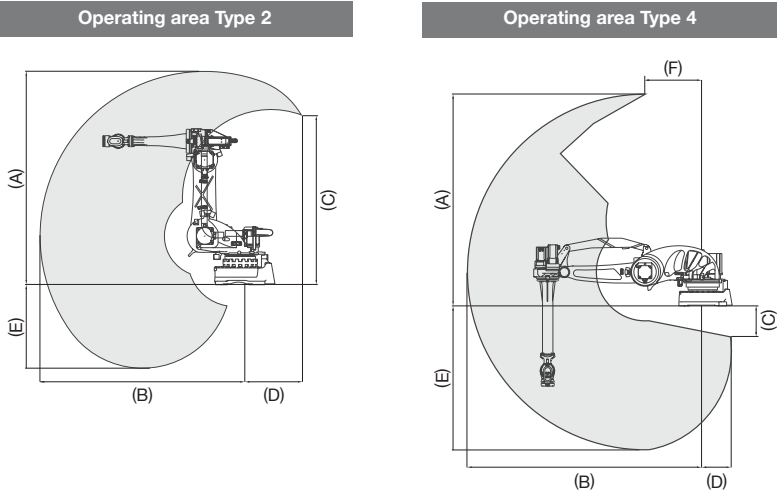
We deliver the power to drive your automation while ensuring energy savings, costs reduction and higher productivity.



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	6	6	6	6	6	6	6	6	6	6	6	6	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	2550 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
Stroke (Max Speed)	Axis 1	+/- 180° (110 °/s)	+/- 180° (155 °/s)	+/- 180° (110 °/s)	+/- 180° (100 °/s)	+/- 180° (110 °/s)	+/- 180° (100 °/s)	+/- 180° (90 °/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° (90 °/s)	-50° / +170° (90 °/s)	-50° / +170° (90 °/s)	-95° / +75° (90 °/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)	-21,3° / -288° (110 °/s)	-10° / -256° (90 °/s)	0° / -220° (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° (190 °/s)	+/- 200° (200 °/s)	+/- 280° (190 °/s)	+/- 2700° (130 °/s)	+/- 2700° (130 °/s)	+/- 2700° (130 °/s)	+/- 2700° (105 °/s)	+/- 2700° (90 °/s)	+/- 2700° (90 °/s)	+/- 2700° (90 °/s)	+/- 2700° (90 °/s)	+/- 2700° (90 °/s)	+/- 2700° (90 °/s)
	Axis 5	+/- 120° (190 °/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)
	Axis 6	+/- 2700° (230 °/s)	+/- 2700° (230 °/s)	+/- 2700° (230 °/s)	+/- 2700° (195 °/s)	+/- 2700° (195 °/s)	+/- 2700° (195 °/s)	+/- 2700° (160 °/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	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP44 / IP65 Wrist
Mounting position	Floor	Floor	Floor	Floor	-	-	Floor	Floor	Floor	Floor	Floor	Floor	Floor	Floor
	Ceiling	Ceiling	Ceiling	Ceiling	-	-	Ceiling	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	Sloped	-	-	-	-	-	-	-	-	-	-	-	-
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
	B	2980 mm	2050 mm	2616 mm	3000 mm	3450 mm	3151 mm	2701 mm	2997 mm	2703 mm	2997 mm	2703 mm	2703 mm	2703 mm
	C	2642 mm	1690 mm	2261 mm	2600 mm	449 mm	547 mm	2922 mm	2922 mm	3195 mm	3195 mm	2895 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	486 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	-181 mm (***)	-181 mm (***)	-181 mm (***)
	F	-	-	-	-	850 mm	850 mm	-	-	-	-	-	-	-

High payload robots Robust and reliable



High Payload Models Can Handle the Most Demanding Applications

Best-in-class Hollow Wrist Robots



Robots

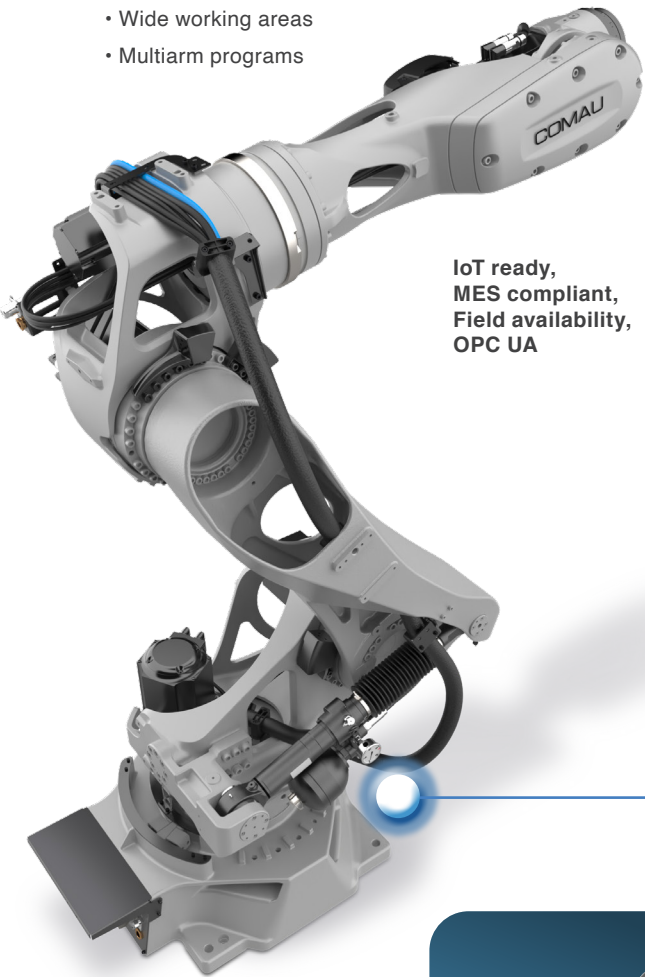
Robots		Hollow Wrist										New!	
Model		NJ4-110-2.2	NJ4-170-2.5	NJ4-170-2.9	NJ4-175-2.2	NJ4-220-2.4	NJ4-220-2.7	NJ4-220-3.0	NJ4-270-2.7	NJ4-165-3.4 SH	NJ4-210-3.1 SH	N-170-3.0	N-220
Number of axes		6	6	6	6	6	6	6	6	6	6	6	6
Maximum wrist payload		110 kg	170 kg	170 kg	175 kg	220 kg	220 kg	220 kg	270 kg	165 kg	210 kg	170 kg	220 kg
Additional load on forearm		10 kg	50 kg	25 kg	50 kg	25 kg	25 kg	25 kg	25 kg	50 kg	25 kg	170 kg	50 kg
Maximum horizontal reach		2210 mm	2500 mm	2918 mm	2204 mm	2417 mm	2738 mm	3002 mm	2703 mm	3377 mm	3188 mm	3000 mm	2670 mm
Torque on axis 4		796 Nm	1010 Nm	1010 Nm	1010 Nm	1320 Nm	1320 Nm	1320 Nm	1960 Nm	1089 Nm	1315 Nm	1273 Nm	1270 Nm
Torque on axis 5		609 Nm	804 Nm	804 Nm	804 Nm	950 Nm	950 Nm	950 Nm	1457 Nm	804 Nm	952 Nm	1273 Nm	1270 Nm
Torque on axis 6		284 Nm	412 Nm	412 Nm	412 Nm	690 Nm	690 Nm	690 Nm	834 Nm	411 Nm	687 Nm	715 Nm	780 Nm
Stroke (Max Speed)	Axis 1	+/- 180° (155 °/s)	+/-180° (110°/s)	+/-180° (100 °/s)	+/-180° (110 °/s)	+/-180° (100°/s)	+/-180° (110 °/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° / +95° (110 °/s)	-75° / +95° (90 °/s)	-75° / +95° (110 °/s)	-75° / +95° (90 °/s)	-75° / +95° (90 °/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)	-10° / -230° (110 °/s)	-10° / -230° (110 °/s)	-10° / -230° (110 °/s)	-10° / -256° (110 °/s)	-10° / -256° (110 °/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° (180 °/s)	+/- 200° (130°/s)	+/- 200° (180 °/s)	+/- 200° (130 °/s)	+/- 200° (130 °/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° (140 °/s)	+/- 200° (140 °/s)	+/- 200° (140 °/s)	+/- 200° (125 °/s)	+/- 200° (125 °/s)	+/- 200° (125 °/s)	+/- 200° (125 °/s)	+/- 200° (140 °/s)	+/- 200° (125 °/s)	+/- 125° (140°/s)	+/- 125° (140 °/s)
	Axis 6	+/- 200° (265 °/s)	+/- 200° (190 °/s)	+/- 200° (190 °/s)	+/- 200° (190 °/s)	+/- 200° (170 °/s)	+/- 200° (170 °/s)	+/- 200° (170 °/s)	+/- 200° (170 °/s)	+/- 200° (170 °/s)	+/- 200° (190 °/s)	+/- 200° (210°/s)	+/- 2700° (210 °/s)
Repeatability		0.07 mm	0.10 mm	0.10 mm	0.10 mm	0.15 mm	0.15 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 125 9409 - 1 - A 160	9409 - 1 - A 125 9409 - 1 - A 160	9409 - 1 - A 125 9409 - 1 - A 160	9409 - 1 - A 125 9409 - 1 - A 160	9409 - 1 - A 125 9409 - 1 - A 160	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	1100 kg	1240 kg	1080 kg	1260 kg	1290 kg	2005 kg	1975 kg	1430 kg	1460 kg	1277 kg	1193 kg
Protection class		IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65
Mounting position		Floor	Floor	Floor	Floor	Floor	Floor	Floor	Floor	-	-	Floor	Floor
		Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	-	-	Ceiling	-
		-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	Shelf	Shelf	-	-
Operating area type		Type 5	Type 5	Type 5	Type 5	Type 5	Type 5	Type 5	Type 5	Type 4	Type 4	Type 6	Type6
Operating areas	A	2360 mm	2981 mm	3357 mm	2685 mm	2847 mm	3168 mm	3685 mm	3392 mm	3027 mm	2837 mm	3963,87 mm	3076,4 mm
	B	2210 mm	2501 mm	2927 mm	2204 mm	2417 mm	2738 mm	3002 mm	2703 mm	3377 mm	3187 mm	3000,84 mm	2670,5 mm
	C	1856 mm	2226 mm	2524 mm	2080 mm	2241 mm	2324 mm	2927 mm	2617 mm	472 mm	535 mm	1825 mm	1850,0 mm
	D	712 mm	720 mm	744 mm	959 mm	465 mm	779 mm	804 mm	804 mm	323 mm	131 mm	651,85 mm	1552,2 mm
	E	893 mm	554 mm	436 mm	360 mm	436 mm	464 mm	123 mm	-181 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

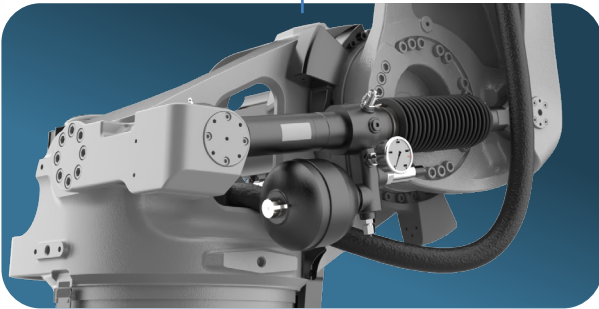
Discover N-170 and N-220

New generation robots to unlock higher performance and cost-effective automation:

- Direct assembly between motor and gearbox
- Visual recalibration for “turn-set” recovery
- Enhanced SW motion algorithm with e-Motion 3.0
- Safe Motion and Safety Bus Options available
- Improved MTBF and lower MTTR
- Wide working areas
- Multiarm programs



IoT ready,
MES compliant,
Field availability,
OPC UA



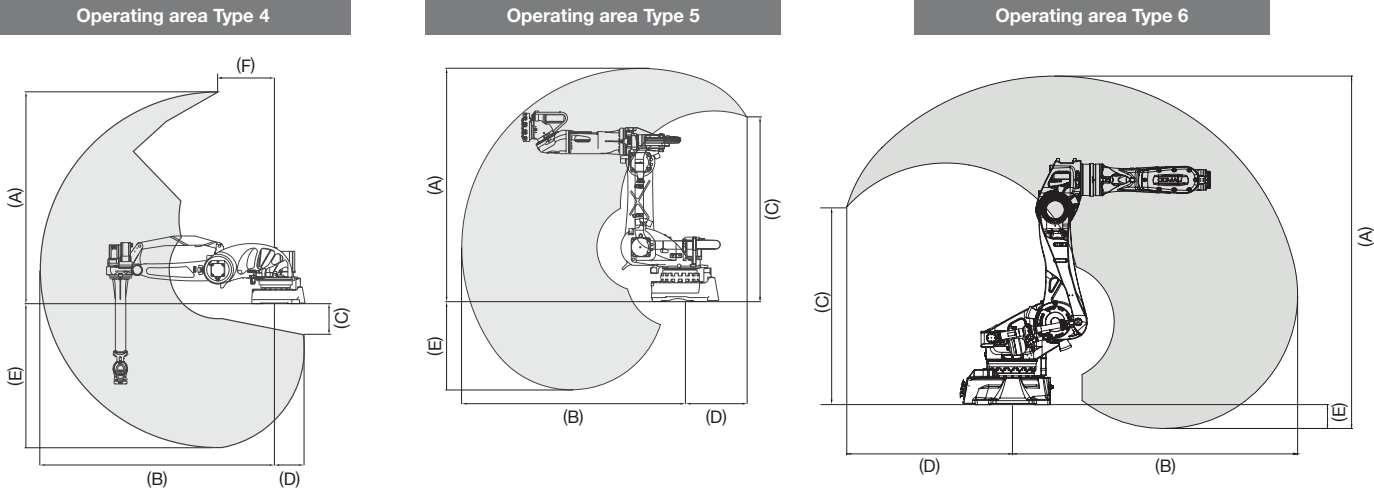
The use of a balancing system with nitrogen for axis2 (and larger axis3 stroke-ends) allow N-robot a wide backwards working area: that is ideal for **bending** and **agile handling** applications.

Hollow Wrist robots

Decreased maintenance costs

High density automation is possible

Reliable off-line programming:
shorter application design time and
faster line start-up



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	Model	C5Compact
Dimensions (WxDxH):	427x498x266 mm	Dimensions:	550x500x550 mm
Weight:	23 kg	Weight:	100 kg
Working temperature:	5 to 45°C	Working temperature:	5 to 45°C
Humidity:	from 5% to 95% without condensation	Humidity:	from 5% to 95% without condensation
Extended line power range:	230V ±10%	Extended line power range:	400 to 500V
Available for:	R1C-4>Rebel-S6 I R1C-6>Racer-3/5	Available for:	Racer-7
SAFE Control:	available version	SAFE Control:	available version



Model	C5G Plus
Dimensions:	800x1110x510 mm
Weight:	125 kg
Working temperature:	5 to 45°C (5 to 55°C with cooler)
Humidity:	from 5% to 95% without condensation
Extended line power range:	400 to 500V
Available for:	Racer-7, NS, NJ, NJ4 / PAL (all models)
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



4.5

Double action horizontal positioners

Model	PTDO-750-1.2	
	2.0	4.0
Payload	2x750 kg	
Static torque on main axis	1000 Nm	
Approx. time for 180° changeover	3.7 s	

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



Orbital single lathe positioner

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



Rotary tables

Model	TR-1000	TR-3000	TR-4500	TR-6000	RT-1500	RT-63000
Payload	1000 kg	3000 kg	4500 kg	6000 kg	1500 kg	3000 kg
Max inertia	1400 kgm²	3500 kgm²	7000 kgm²	15000 kgm²	780 kgm²	4300 kgm²
Static torque on main axis	850 Nm	4200 Nm	4250 Nm	5800 Nm	1100 Nm	4500 Nm



Slides

Robot model	From NJ-110-3.0 to NJ4-220-2.7	From NJ-220-3.0 to NJ-650-2.7
Rail type	TMF3	TMF4
Robot mounting position*	0° - 90° - 180° - 270°	0° - 90° - 180° - 270°
Robot spacer	200 - 300 - 400 - 500 mm	200 - 300 - 400 - 500 mm
Dressing type Spot (S) / Hand (H)	S / H	S / H
Min. net stroke / Step - Single carriage	2170 / 500 mm	2370 / 500 mm
Min. net stroke / Step - Double carriage	2370 / 500 mm	2290 / 500 mm

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





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