EN

FLEX-LINE AUTOMATION, INC. (800)916-0031

Robotics

Compact Catalogue

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THE CULTURE OF AUTOMATION

Designing advanced automation solutions means thinking about the industry in a new way, developing new scenarios, designing innovative products and creating ways to streamline production processes.

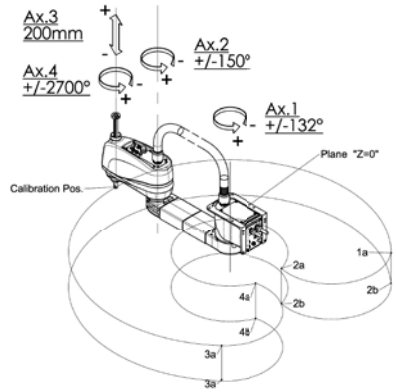
It requires more than technical competence; it requires a team of professionals whose vision is rooted in a culture of excellence. It also requires a combination of talent, passion and experience that unite to define new trends in automation.

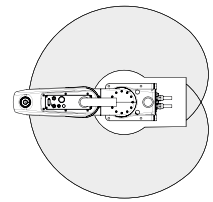
Here at Comau, our passion for our work reflects who we are.

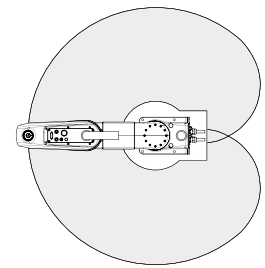
SCARA robots

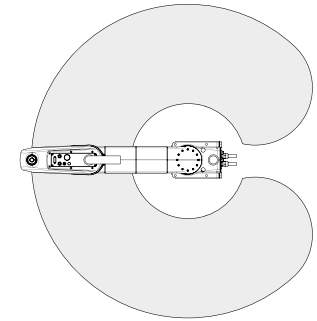
Model		REBEL-S6-0.45	REBEL-S6-0.60	REBEL-S6-0.60C	REBEL-S6-0.75	REBEL-S6-0.75C
Robot type		SCARA	SCARA	SCARA	SCARA	SCARA
Payload		6 kg	6 kg	6 kg	6 kg	6 kg
Horizontal reach (radius)		450 mm	600 mm	600 mm	750 mm	750 mm
Vertical reach (Z-stroke)		200 mm	200 mm	200 mm	200 mm	200 mm
Repeatability (X-Y)		0,02 mm	0,02 mm	0,02 mm	0,03 mm	0,03 mm
Internal user wiring / piping	Electrical	25 pin-to-pin	25 pin-to-pin	25 pin-to-pin	25 pin-to-pin	25 pin-to-pin
	Pneumatical	1 x 4 mm & 2 x 6 mm	1 x 4 mm & 2 x 6 mm	1 x 4 mm & 2 x 6 mm	1 x 4 mm & 2 x 6 mm	1 x 4 mm & 2 x 6 mm
Available protection classes	IP class	IP10 (IP54 Option)	IP10 (IP54 Option)	IP10 (IP54 Option)	IP10 (IP54 Option)	IP10 (IP54 Option)
Outer diameter of ball screw/spline		20 mm	20 mm	20 mm	20 mm	20 mm
Inner diameter of ball screw/spline		14 mm	14 mm	14 mm	14 mm	14 mm
Z axis down force (long-time)		160 N	160 N	160 N	160 N	160 N
Robot weight		20 kg	20 kg	20 kg	20 kg	20 kg
Environmental conditions	Temperature	+5° - +45° C	+5° - +45° C	+5° - +45° C	+5° - +45° C	+5° - +45° C
	Relative humidity	5 - 95%*	5 - 95%*	5 - 95%*	5 - 95%*	5 - 95%*
Applicable controller		R1C-4	R1C-4	R1C-4	R1C-4	R1C-4
Mounting position		Floor Wall -	Floor Wall -	- Wall Ceiling	Floor Wall -	- Wall Ceiling

*without condensation









Robots

	Small									Medium		
Model	**RACER-3-0.63**	**RACER-5-0.63**	**RACER-5-0.80**	**RACER-7-1.0**	**RACER-7-1.4**	**SIX-6-1.4**	**ARC4-5-1.95**	**NS-12-1.85**	**NS-16-1.65**	**NJ-16-3.1**	**NJ-40-2.5**	**NJ-60-2.2**
Number of axes	6	6	6	6	6	6	6	6	6	6	6	6
Maximum wrist payload	3 kg	5 kg*	5 kg	7 kg*	7 kg	6 kg	5 kg	12 kg	16 kg	16 kg	40 kg	60 kg
Additional load on forearm	2 kg	-	-	10 kg	10 kg	10 kg	10 kg	10 kg	10 kg	12 kg	35 kg	20 kg
Maximum horizontal reach	630 mm	630 mm	809 mm	999 mm	1436 mm	1400 mm	1951 mm	1850 mm	1650 mm	3108 mm	2503 mm	2258 mm
Torque on axis 4	7.36 Nm	8,83 Nm	8,83 Nm	13 Nm	13 Nm	11.7 Nm	14 Nm	39 Nm	41 Nm	43 Nm	167 Nm	221 Nm
Torque on axis 5	7.36 Nm	8,83 Nm	8,83 Nm	13 Nm	13 Nm	11.7 Nm	14 Nm	39 Nm	41 Nm	43 Nm	167 Nm	221 Nm
Torque on axis 6	4.41 Nm	4.91 Nm	4.91 Nm	7.5 Nm	7.5 Nm	5.8 Nm	4.9 Nm	20 Nm	23 Nm	23 Nm	98 Nm	118 Nm
Stroke (Speed) Axis 1	+/- 170° (430 °/s)	+/- 170° (400 °/s)	+/- 170° (360 °/s)	+/- 165° (250 °/s)	+/- 165° (220 °/s)	+/-170° (140 °/s)	+/- 180° (170 °/s)	+/- 180° (155 °/s)	+/- 180° (155 °/s)	+/- 180° (170 °/s)	+/-180° (170 °/s)	+/- 180° (170 °/s)
Axis 2	-95° / +135° (450 °/s)	-95° / +135° (360 °/s)	-95° / +135° (300 °/s)	-65° / +150° (250 °/s)	-85° / +155° (250 °/s)	+155° / -85° (160 °/s)	-60° / +155° (175 °/s)	-60° / +155° (155 °/s)	-60° / +155° (155 °/s)	-60° / +125° (150 °/s)	-60° / + 125° (150 °/s)	-60° / +125° (150 °/s)
Axis 3	-155° / +90° (500 °/s)	-155° / +90° (400 °/s)	-155° / +90° (330 °/s)	-37° / -165° (300 °/s)	0° / -168° (300 °/s)	0° / -170° (170 °/s)	-170° / +110° (185 °/s)	-170° / +110° (170 °/s)	-170° / +110° (170 °/s)	0° / -170° (165 °/s)	0° / -165° (165 °/s)	0° / -165° (165 °/s)
Axis 4	+/- 200° (600 °/s)	+/- 200° (500 °/s)	+/- 210° (500 °/s)	+/- 210° (550 °/s)	+/- 210° (600 °/s)	+/- 210° (450 °/s)	+/- 185° (360 °/s)	+/- 2700° (360 °/s)	+/- 2700° (360 °/s)	+/- 2700° (265 °/s)	+/- 2700° (265 °/s)	+/- 2700° (265 °/s)
Axis 5	+/- 125° (600 °/s)	+/- 125° (500 °/s)	+/- 125° (500 °/s)	+/- 137° (550 °/s)	+/- 135° (600 °/s)	+/- 130° (375 °/s)	+/- 123° (375 °/s)	+/- 120° (350 °/s)	+/- 120° (350 °/s)	+/- 120° (250 °/s)	+/- 123° (250 °/s)	+/- 123° (250 °/s)
Axis 6	+/- 2700° (900 °/s)	+/- 2700° (800 °/s)	+/- 2700° (800 °/s)	+/- 2700° (600 °/s)	+/- 2700° (650 °/s)	+/- 2700° (550 °/s)	+/- 270° (550 °/s)	+/- 2700° (550 °/s)	+/- 2700° (550 °/s)	+/- 2700° (340 °/s)	+/- 2700° (550 °/s)	+/- 2700° (340 °/s)
Repeatability	0.02 mm	0.03 mm	0.03 mm	0.02 mm	0.03 mm	0.05 mm	0.05 mm	0.05 mm	0.05 mm	0.10 mm	0.06 mm	0.06 mm
Tool coupling flange ISO	9409 - 1 - A 25	9409 - 1 - A 25	9409 - 1 - A 25	9409 -1- A 40	9409 -1- A 40	9409-1-40-4-M6	9409-1-63-4-M6	9409 - 1 - A63	9409 - 1 - A63	9409 - 1 - A63	9409 - 1 - A100	9409 - 1 - A100
Robot weight	30 kg	30 kg	32 kg	173 kg	180 kg	160 kg	375 kg	335 kg	333 kg	680 kg	655 kg	645 kg
Protection class	IP54	IP54	IP54	IP65	IP65	IP65	IP65	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)	IP65/67 (Foundry)
Mounting position	Floor	Floor	Floor	Floor	Floor	Floor	Floor	Floor	Floor	Floor	Floor	Floor
	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling	Ceiling
	Wall	Wall**	Wall**	Wall	-	-	-	-	-	-	-	-
	-	-	-	Sloped	Sloped (45° max)	Sloped (45° max)	Sloped (45° max)	Sloped (45° max)	Sloped (45° max)	Sloped (45° max)	Sloped (45° max)	Sloped (45° max)
	-	-	-	-	-	-	-	-	-	-	-	-
Operating area type	**Type 1**	**Type 1**	**Type 1**	**Type 2**	**Type 2**	**Type 2**	**Type 2**	**Type 1**	**Type 1**	**Type 2**	**Type 2**	**Type 2**
Operating areas A	1081 mm	1081 mm	1124 mm	1279 mm	1716 mm	1700 mm	2251 mm	2150 mm	1951 mm	3258 mm	2653 mm	2408 mm
B	630 mm	630 mm	809 mm	999 mm	1436 mm	1400 mm	1951 mm	1850 mm	1651 mm	3108 mm	2503 mm	2258 mm
C	37 mm	37 mm	8 mm	904 mm	412 mm	428 mm	49 mm	950 mm	950 mm	2576 mm	2165 mm	1918 mm
D	530 mm	530 mm	708 mm	554 mm	1130 mm	1095 mm	1257 mm	1157 mm	957 mm	1088 mm	720 mm	686 mm
E	136 mm	136 mm	286 mm	385 mm	801 mm	745 mm	986 mm	885 mm	685 mm	1625 mm	1187 mm	941 mm
F	-	-	-	-	-	-	-	-	-	-	-	-

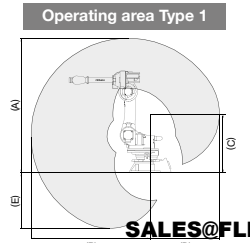
* For Pick&Place 6 kg with a limited stroke of the 5th axis
** Allowable with payload limitations

*For Pick&Place 10 kg with a limited stroke of the 5th axis

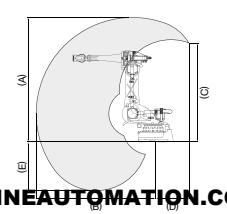
ARC version available

in line wrist as a standard, off-set version available

Operating area Type 1



Operating area Type 2



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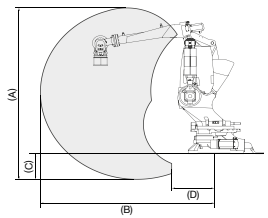
Robots

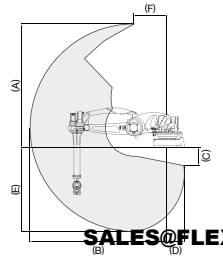
Special

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
Stroke (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)	+/- 125° (175 °/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 / IP65 Wrist	IP44 / IP65 Wrist
Mounting position		Floor	Floor	Floor	Floor	-
		-	-	-	-	-
		-	-	-	-	-
		-	-	-	-	-
		-	-	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

Operating area Type 3



Operating area Type 4

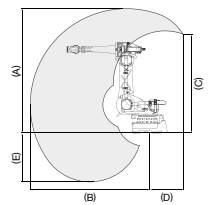


Robots

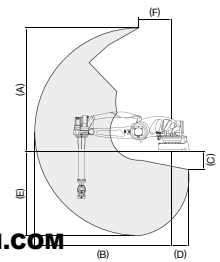
High payload

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 (Speed)	Axis 1	+/- 180° (110 °/s)	+/- 180° (155 °/s)	+/- 180° (110 °/s)	+/- 180° (100 °/s)	+/- 180° (85 °/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° (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° (110 °/s)	0° / -220° (90 °/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° (190 °/s)	+/- 200° (200 °/s)	+/- 280° (190 °/s)	+/- 2700° (130 °/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° (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° (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	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-		Shelf	Shelf	-	-	-	-	-	-	-	-
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	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	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	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 (***)	-181 mm (***)
	F	-	-	-	-	850 mm	850 mm	-	-	-	-	-	-	-	-

Operating area Type 2



Operating area Type 4

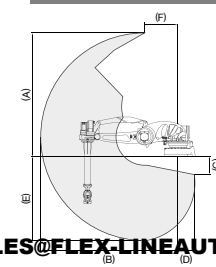


Robots

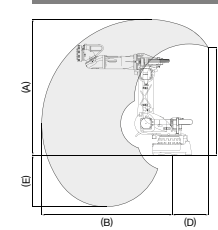
Hollow Wrist

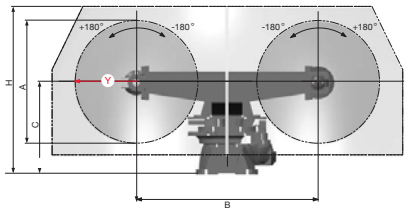
Model		NJ4-90-2.2	NJ4-110-2.2	NJ4-170-2.5	NJ4-170-2.9	NJ4-175-2.2	NJ4-220-2.4	NJ4-220-2.7	NJ4-220-3.0	NJ4-270-2.7	NJ4-165-3.4 SH	NJ4-210-3.1 SH
Number of axes		6	6	6	6	6	6	6	6	6	6	6
Maximum wrist payload		90 kg	110 kg	170 kg	170 kg	175 kg	220 kg	220 kg	220 kg	270 kg	165 kg	210 kg
Additional load on forearm		10 kg	10 kg	50 kg	25 kg	50 kg	25 kg	25 kg	25 kg	25 kg	50 kg	25 kg
Maximum horizontal reach		2210 mm	2210 mm	2500 mm	2918 mm	2204 mm	2417 mm	2738 mm	3002 mm	2703 mm	3377 mm	3188 mm
Torque on axis 4		577 Nm	796 Nm	1010 Nm	1010 Nm	1010 Nm	1320 Nm	1320 Nm	1320 Nm	1960 Nm	1089 Nm	1315 Nm
Torque on axis 5		432 Nm	609 Nm	804 Nm	804 Nm	804 Nm	950 Nm	950 Nm	950 Nm	1457 Nm	804 Nm	952 Nm
Torque on axis 6		206 Nm	284 Nm	412 Nm	412 Nm	412 Nm	690 Nm	690 Nm	690 Nm	834 Nm	411 Nm	687 Nm
Stroke (Speed)	Axis 1	+/- 180° (170 °/s)	+/- 180° (170 °/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)
	Axis 2	-60° / +125° (125 °/s)	-60° / +155° (125 °/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)
	Axis 3	0° / -165° (165 °/s)	0° / -165° (165 °/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)
	Axis 4	+/- 200° (200 °/s)	+/- 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)
	Axis 5	+/- 200° (200 °/s)	+/- 200° (165 °/s)	+/- 200° (140 °/s)	+/- 200° (125 °/s)	+/- 200° (140 °/s)	+/- 200° (125 °/s)	+/- 200° (125 °/s)	+/- 200° (125 °/s)	+/- 200° (125 °/s)	+/- 200° (140 °/s)	+/- 200° (125 °/s)
	Axis 6	+/- 200° (265 °/s)	+/- 200° (265 °/s)	+/- 200° (190 °/s)	+/- 200° (170 °/s)	+/- 200° (190 °/s)	+/- 200° (170 °/s)	+/- 200° (170 °/s)	+/- 200° (170 °/s)	+/- 200° (170 °/s)	+/- 200° (170 °/s)	+/- 200° (190 °/s)
Repeatability		0.07 mm	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
Tool coupling flange ISO		9409-1-125-6-M10	9409-1-125-6-M10	9409 - 1 - A 125	9409 - 1 - A 125	9409 - 1 - A 125	9409 - 1 - A 125	9409 - 1 - A 125	9409 - 1 - A 160	9409 - 1 - A 160	9409 - 1 - A 160	9409 - 1 - A 160
		9409-1-160-6-M10	9409-1-160-6-M10	9409 - 1 - A 160	9409 - 1 - A 160	9409 - 1 - A 160	9409 - 1 - A 160	9409 - 1 - A 160	9409 - 1 - A 200	9409 - 1 - A 200	9409 - 1 - A 200	9409 - 1 - A 200
Robot weight		685 kg	685 kg	1100 kg	1240 kg	1080 kg	1260 kg	1290 kg	2005 kg	1975 kg	1430 kg	1460 kg
Protection class		IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65
Mounting position		Floor	Floor	Floor	Floor	Floor	Floor	Floor	Floor	Floor	-	-
		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 5	Type 4	Type 4
Operating areas	A	2360 mm	2360 mm	2981 mm	3357 mm	2685 mm	2847 mm	3168 mm	3685 mm	3392 mm	3027 mm	2837 mm
	B	2210 mm	2210 mm	2501 mm	2927 mm	2204 mm	2417 mm	2738 mm	3002 mm	2703 mm	3377 mm	3187 mm
	C	1856 mm	1856 mm	2226 mm	2524 mm	2080 mm	2241 mm	2324 mm	2927 mm	2617 mm	472 mm	535 mm
	D	712 mm	712 mm	720 mm	744 mm	959 mm	465 mm	779 mm	804 mm	804 mm	323 mm	131 mm
	E	893 mm	893 mm	387 mm	436 mm	360 mm	436 mm	464 mm	123 mm	-181 mm (***)	2027 mm	1837 mm
	F	-	-	-	-	-	-	-	-	-	850 mm	850 mm

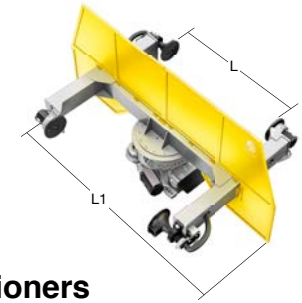
Operating area Type 4



Operating area Type 5

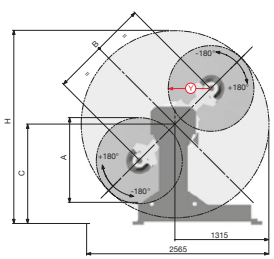






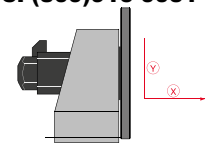
Double action vertical positioners

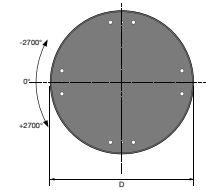
Model	PTDV-250	PTDV-500		PTDV-750	PTDV-850
	1.1 - 1.6	1.2 - 2.0	1.2 - 2.5	1.2 - 2.0	1.2 - 2.0
Payload	2x250 kg	2x500 kg	2x500 kg	2x750 kg	2x850 kg
Static torque on main axis	600 Nm	1000 Nm	1000 Nm	1000 Nm	1000 Nm
Approx. time for 180° changeover	5.3 s	4.9 s	5.3 s	4.7 s	4.8 s
Max load difference between stations	250 kg	500 kg	500 kg	750 kg	850 kg
Max inertia	60 kgm²	200 kgm²	200 kgm²	350 kgm²	350 kgm²
Main axis rotation angle	from -90° to +90°				
Secondary axis rotation angle	from -180° to +180°				
Repeatability at 500 mm	0.15 mm	0.16 mm	0.20 mm	0.16 mm	0.20 mm
A	1100 mm	1200 mm	1200 mm	1200 mm	1200 mm
B	1700 mm	2150 mm	2150 mm	2150 mm	2150 mm
C	1100 mm	795/677mm	795/677mm	795/677mm	795/677mm
H	1969 mm	2003 mm	2003 mm	2003 mm	2003 mm
L	1600 mm	2056 mm	2556 mm	2056 mm	2556 mm
L1	3300 mm	3956 mm	4400 mm	3956 mm	4400 mm



Double action horizontal positioners

Model	PTDO-750-1.2			
	2.0	3.1	4.0	4.5
Payload	2x750 kg	2x750 kg	2x750 kg	2x750 kg
Static torque on main axis	1000 Nm	1000 Nm	1000 Nm	1000 Nm
Approx. time for 180° changeover	3.7 s	3.7 s	3.7 s	3.7 s
Max load difference between stations	350 kg	350 kg	350 kg	350 kg
Max inertia	270 kgm²	270 kgm²	270 kgm²	270 kgm²
Main axis rotation angle	from -90° to +90°			
Secondary axis rotation angle	from -180° to +180°			
Repeatability at 500 mm	0.15 mm	0.15 mm	0.15 mm	0.15 mm
A	1200 mm	1200 mm	1200 mm	1200 mm
B	1430 mm	1430 mm	1430 mm	1430 mm
C	1405 mm	1405 mm	1405 mm	1405 mm
H	2720 mm	2720 mm	2720 mm	2720 mm
L	2000 mm	3100 mm	4000 mm	4500 mm
L1	4086 mm	5186 mm	6086 mm	6586 mm



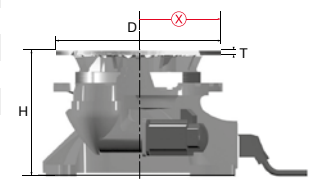


Positioner modules

Model	MP-500	MP-1000	MP-1250	MP-2500	MP-5000
Payload	500 kg	1000 kg		2500 kg	5000 kg
Max inertia	250 kgm²	400 kgm²	1250 kg	1100 kgm²	2500 kgm²
Static torque on main axis	600 Nm	1000 Nm	400 kgm²	5000 Nm	4000 Nm
Turnover moment (Max moment of flexure)	2000 Nm	3500 Nm	1500 Nm	7000 Nm	50000 Nm
Max axial thrust	1150 daN	1500 daN	3500 Nm	2000 daN	3000 daN
Acceleration time	0.60 s	0.75 s	1500 daN	0.70 s	0.50 s
Output rotation speed	150 (°/s)	150 (°/s)	0.80 s	100 (°/s)	27 (°/s)
Repeatability at 500 mm	0.05 mm	0.06 mm	150 (°/s)	0.09 mm	0.10 mm
Motors	0.06 mm				
Protection class	AC brushless				
Weight	53 kg	90 kg	IP67	290 kg	2000 kg
Flange diameter - D	190 mm	370 mm	90 kg	600 mm	900 mm
Idle Flange group	370 mm				
	available in option				

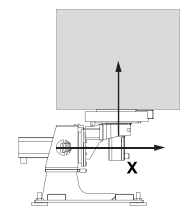
Rotary tables

Model	TR-1000	TR-3000	TR-4500	TR-6000
Payload	1000 kg	3000 kg	4500 kg	6000 kg
Max inertia	1400 kgm²	3500 kgm²	7000 kgm²	15000 kgm²
Static torque on main axis	850 Nm	4200 Nm	4250 Nm	5800 Nm
Turnover moment (Max moment of flexure)	10000 Nm	41000 Nm	45000 Nm	75000 Nm
Approx. time for 180° changeover	3.5 s	3.8 s	4.3 s	5.9 s
Main axis rotation angle	69 (°/s)	50 (°/s)	55 (°/s)	33 (°/s)
Repeatability at 500 mm	0.10 mm	0.10 mm	0.15 mm	0.20 mm
Tilting angle up to 10°	yes	yes	yes	yes
Availability in single-turn/multi-turn	ST	ST/MT	ST/MT	ST/MT
H	780 mm	660 mm	660 mm	800 mm
T	17 mm	23 mm	23 mm	23 mm
D	750 mm	900 mm	900 mm	1500 mm



Orbital single lathe positioner

Model	PTS-ORB-1000
Payload	1000 kg
Max inertia	400 kgm²
Static torque on main axis	1000 Nm
Turnover moment (Max moment of flexure)	2060 Nm
Max axial thrust	1150 daN
Acceleration time	0.75 s
Output max rotation speed	150 (°/s)
Output max rotation speed 2	90 (°/s)
Repeatability at 500 mm	0.06 mm
Motors	AC brushless
Protection class	IP65
Weight	630 kg
Flange diameter - D	288 mm



FLEX-LINE AUTOMATION INC. (800)916-0031

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Autonomous mobile robot (AMR)

Model	Agile1500
External dimensions (LxWxH)	1404 x 680 x 330 mm
Load plate dimensions (LxW)	1190 x 600 mm
Weight	350 kg
Maximum payload	1500 kg
Maximum speed	1.7 m/s (in natural navigation)
Positioning repeatability	+/-10 mm
Maximun towing force	2400 N (*)
Maximun grade	1%
Operating environment	Indoor
Battery type	Maintenance-free Lead
Battery characteristics	24 V – 205 Ah
Implements interfacing and communication	
Power supply	24 Vdc Power, 24 Vdc Auxiliary
Communication	CANopen fieldbus

(*) friction 0.5 / 350 kg on vehicle plate

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	670 / 500 mm	670 / 500 mm
Min. net stroke / Step - Double carriage	370 / 500 mm	270 / 500 mm

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

Control units

Model	R1C / R1C-4
Dimensions (WxDxH):	427x498x266 mm
Weight:	23 kg
Working temperature:	5 to 45°C
Humidity:	from 5% to 95% without condensation
Extended line power range:	230V ±10%
R1C available for:	**Racer-3, Racer-5**
R1C-4 available for:	**Rebel-S**

Model	C5Compact
Dimensions:	550x500x550 mm
Weight:	100 kg
Working temperature:	5 to 45°C
Humidity:	from 5% to 95% without condensation
Extended line power range:	400 to 500V
Available for:	**Racer-7, NS**
SAFE-cartesian version:	available option

Model	C5G
Dimensions:	800x1100x500 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-cartesian version:	available option

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