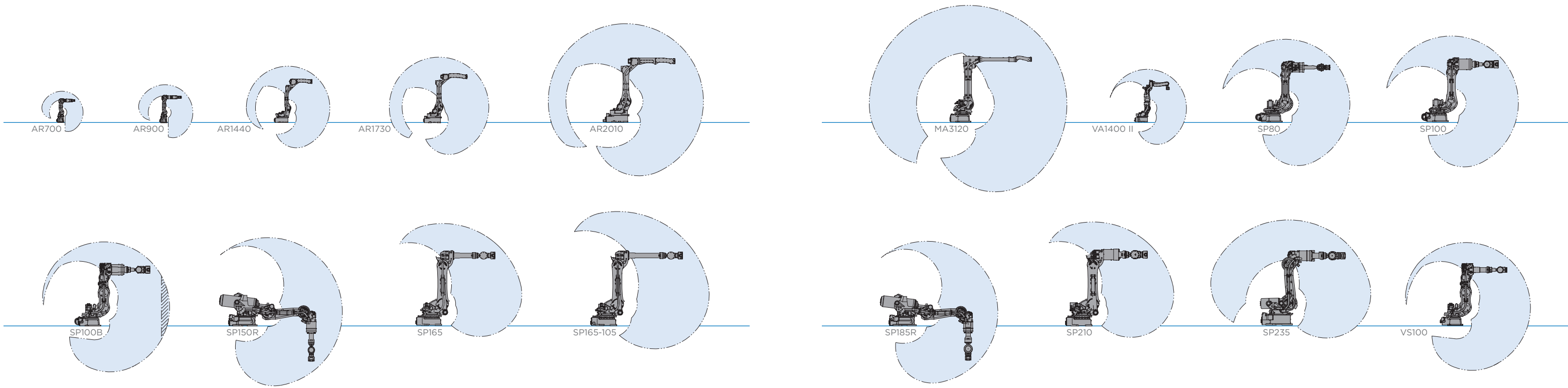


YASKAWA

Motoman[®] Robots

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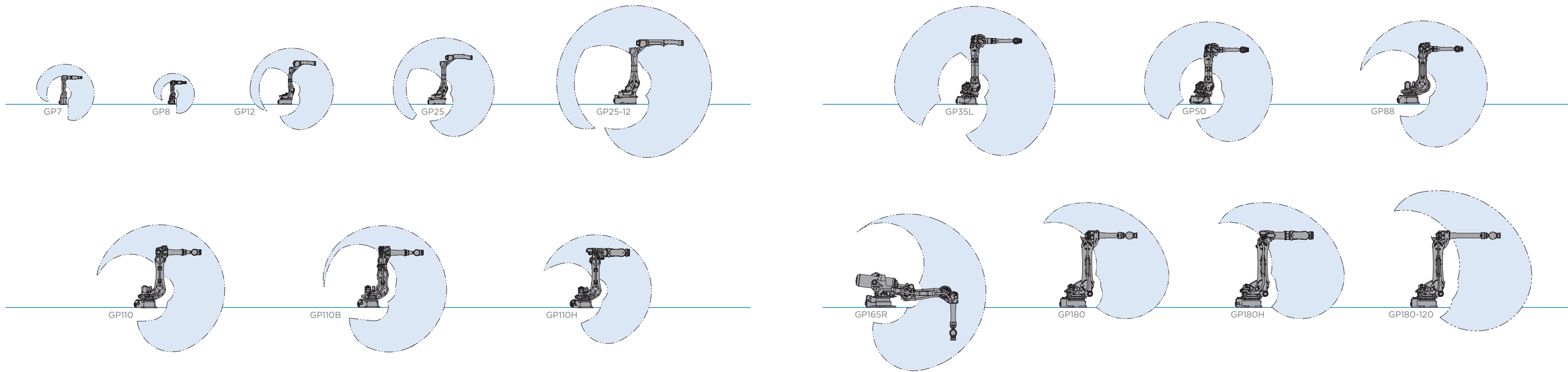
	ARC WELDING						
Model	AR700	AR900	AR1440	AR1730	AR2010	MA3120	VA1400 II
Controller	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	DX200	DX200
MLX300 Software Option							
XP INCREASED IP PROTECTION (OPTION)							
Food Grade Grease (OPTION)							
Mounting	F, W, C	F, W, C	F, W, C	F, W, C	F, W, C	F, W, C	F
Degrees of Freedom	6	6	6	6	6	6	7
Payload	8 kg	7 kg	12 kg	25 kg	12 kg	6 kg	3 kg
Vertical Reach	1,312 mm	1,693 mm	2,511 mm	3,089 mm	3,649 mm	5,615 mm	2,475 mm
Horizontal Reach	727 mm	927 mm	1,440 mm	1,730 mm	2,010 mm	3,121 mm	1,434 mm
Repeatability	±0.02 mm	±0.03 mm	±0.06 mm	±0.06 mm	±0.08 mm	±0.15 mm	±0.08 mm
Maximum Motion Range							
S-Axis (Turning/Sweep)	±170°	±170°	±170°	±180°	±180°	±180°	±170°
L-Axis (Lower Arm)	+145°/-65°	+145°/-65°	+155°/-90°	+155°/-105°	+155°/-105°	+135°/-90°	+148°/-70°
U-Axis (Upper Arm)	+190°/-70°	+190°/-70°	+150°/-85°	+160°/-86°	+160°/-86°	+251°/-160°	+150°/-175°
R-Axis (Wrist Roll)	±190°	±190°	±200°	±200°	±200°	±150°	±150°
B-Axis (Bend/Pitch/Yaw)	±135°	±135°	±150°	±150°	±150°	+90°/-135°	+180°/-45°
T-Axis (Wrist Twist)	±360°	±360°	±455°	±455°	±455°	±210°	±200°
7th-Axis	n/a	n/a	n/a	n/a	n/a	n/a	E: ±90°
Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Maximum Speed							
S-Axis	455°/s	375°/s	260°/s	210°/s	210°/s	180°/s	220°/s
L-Axis	385°/s	315°/s	230°/s	210°/s	210°/s	178°/s	200°/s
U-Axis	520°/s	410°/s	260°/s	265°/s	220°/s	178°/s	220°/s
R-Axis	550°/s	550°/s	470°/s	420°/s	435°/s	400°/s	410°/s
B-Axis	550°/s	550°/s	470°/s	420°/s	435°/s	430°/s	410°/s
T-Axis	1,000°/s	1,000°/s	700°/s	885°/s	700°/s	630°/s	610°/s
7th-Axis	n/a	n/a	n/a	n/a	n/a	n/a	E: 220°/s
Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Approximate Mass	32 kg	34 kg	150 kg	250 kg	260 kg	501 kg	150 kg
Power Rating	1 kVa	1 kVa	1.5 kVa	2 kVa	2 kVa	2.5 kVa	1.5 kVa
Allowable Moment							
R-Axis	17 N•m	17 N•m	22 N•m	52 N•m	22 N•m	10.5 N•m	8.8 N•m
B-Axis	17 N•m	17 N•m	22 N•m	52 N•m	22 N•m	10.5 N•m	8.8 N•m
T-Axis	10 N•m	10 N•m	9.8 N•m	32 N•m	9.8 N•m	3.2 N•m	2.9 N•m
Allowable Moment of Inertia							
R-Axis	0.5 kg•m ²	0.5 kg•m ²	0.65 kg•m ²	2.3 kg•m ²	0.65 kg•m ²	0.28 kg•m ²	0.27 kg•m ²
B-Axis	0.5 kg•m ²	0.5 kg•m ²	0.65 kg•m ²	2.3 kg•m ²	0.65 kg•m ²	0.28 kg•m ²	0.27 kg•m ²
T-Axis	0.2 kg•m ²	0.2 kg•m ²	0.17 kg•m ²	1.2 kg•m ²	0.17 kg•m ²	0.06 kg•m ²	0.03 kg•m ²

	SPOT WELDING									
Model	SP80*	SP100*	SP100B*	SP150R*	SP165*	SP165-105*	SP185R*	SP210*	SP235*	VS100*
Controller	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	DX200
MLX300 Software Option										
XP INCREASED IP PROTECTION (OPTION)										
Food Grade Grease (OPTION)										
Mounting	F, W, C, T	F	F	S	F	F	S	F	F	F
Degrees of Freedom	6	6	7	6	6	6	6	6	6	7
Payload	80 kg	100 kg	100 kg	150 kg	165 kg	105 kg	185 kg	210 kg	225 kg	110 kg
Vertical Reach	3,751 mm	3,751 mm	3,792 mm	4,782 mm	3,393 mm	4,105 mm	4,782 mm	3,393 mm	3,490 mm	3,793 mm
Horizontal Reach	2,236 mm	2,236 mm	2,236 mm	3,140 mm	2,702 mm	3,058 mm	3,140 mm	2,702 mm	2,710 mm	2,236 mm
Repeatability	±0.07 mm	±0.07 mm	±0.12 mm	±0.2 mm	±0.2 mm	±0.2 mm	±0.2 mm	±0.2 mm	±0.2 mm	±0.12 mm
Maximum Motion Range										
S-Axis (Turning/Sweep)	±180°	±180°	±180°	±180°	±180°	±180°	±180°	±180°	±180°	±180°
L-Axis (Lower Arm)	+155°/-90°	+155°/-90°	+155°/-45°	+80°/-130°	+76°/-60°	+76°/-60°	+80°/-130°	+76°/-60°	+76°/-60°	+155°/-45°
U-Axis (Upper Arm)	+90°/-80°	+90°/-80°	+90°/-70°	+78°/-79.4°	+90°/-86°	+90°/-86°	+78°/-78.4°	+90°/-86°	+197°/-77.8°	+90°/-70°
R-Axis (Wrist Roll)	±205°	±205°	±205°	±205°	±210°	±210°	±205°	±210°	±205°	±360°
B-Axis (Bend/Pitch/Yaw)	±120°	±120°	±120°	±120°	±125°	±125°	±120°	±125°	±120°	±125°
T-Axis (Wrist Twist)	±180°	±205°	±205°	±180°	±210°	±210°	±180°	±210°	±180°	±360°
7th-Axis	n/a	n/a	E: +120°/-45°	n/a	n/a	n/a	n/a	n/a	n/a	E: +120°/-45°
Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Maximum Speed										
S-Axis	170°/s	140°/s	140°/s	105°/s	125°/s	125°/s	90°/s	120°/s	100°/s	140°/s
L-Axis	140°/s	110°/s	110°/s	105°/s	115°/s	115°/s	85°/s	97°/s	90°/s	110°/s
U-Axis	160°/s	130°/s	130°/s	105°/s	125°/s	125°/s	85°/s	115°/s	97°/s	130°/s
R-Axis	230°/s	175°/s	175°/s	175°/s	182°/s	182°/s	120°/s	145°/s	120°/s	175°/s
B-Axis	230°/s	175°/s	175°/s	150°/s	175°/s	175°/s	120°/s	145°/s	120°/s	175°/s
T-Axis	350°/s	255°/s	255°/s	240°/s	265°/s	265°/s	190°/s	220°/s	190°/s	255°/s
7th-Axis	n/a	n/a	E: 110°/s	n/a	n/a	n/a	n/a	n/a	n/a	E: 110°/s
Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Approximate Mass	655 kg	695 kg	825 kg	1,820 kg	1,020 kg	1,090 kg	1,890 kg	1,145 kg	1,410 kg	780 kg
Power Rating	4 kVa	5 kVa	5 kVa	5 kVa	5 kVa	5 kVa	5 kVa	5 kVa	5 kVa	5.5 kVa
Allowable Moment										
R-Axis	389 N•m	696 N•m	696 N•m	868 N•m	951 N•m	834 N•m	1,291 N•m	1,323 N•m	1,333 N•m	721 N•m
B-Axis	389 N•m	696 N•m	696 N•m	868 N•m	951 N•m	834 N•m	1,291 N•m	1,323 N•m	1,333 N•m	721 N•m
T-Axis	201 N•m	294 N•m	294 N•m	490 N•m	618 N•m	520 N•m	715 N•m	735 N•m	735 N•m	294 N•m
Allowable Moment of Inertia										
R-Axis	28 kg•m ²	58 kg•m ²	58 kg•m ²	83 kg•m ²	88 kg•m ²	77 kg•m ²	141 kg•m ²	143 kg•m ²	315 kg•m ²	60 kg•m ²
B-Axis	28 kg•m ²	58 kg•m ²	58 kg•m ²	83 kg•m ²	88 kg•m ²	77 kg•m ²	141 kg•m ²	143 kg•m ²	315 kg•m ²	60 kg•m ²
T-Axis	10.3 kg•m ²	33 kg•m ²	33 kg•m ²	45 kg•m ²	46.3 kg•m ²	40 kg•m ²	80 kg•m ²	84 kg•m ²	200 kg•m ²	33.7 kg•m ²

* WORKING RANGE WITH HARNESS SHOWN FOR R-, B- AND T-AXIS MAXIMUM MOTION RANGE
N/A = NOT APPLICABLE

TECHNICAL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

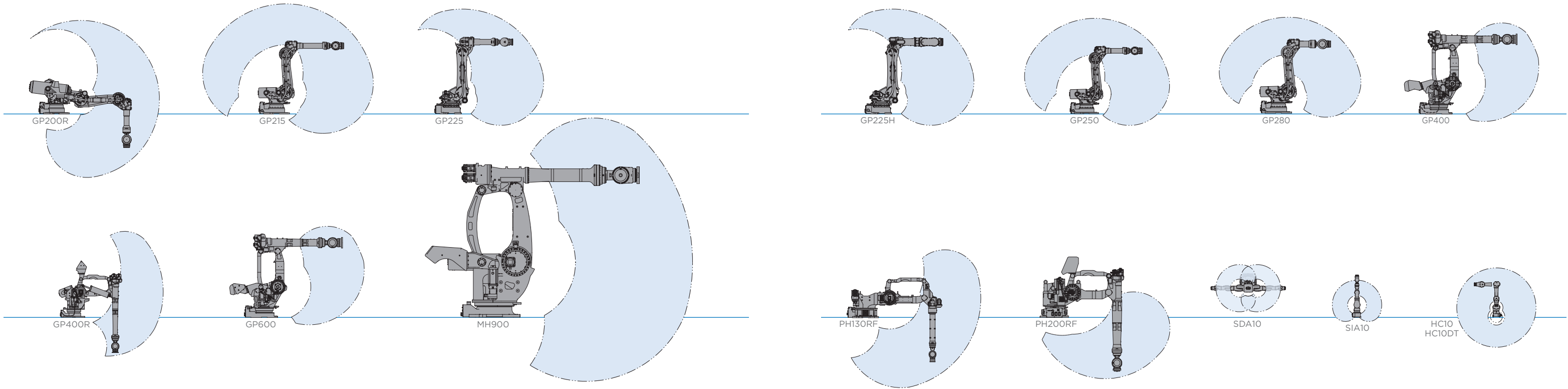
MOUNTING: F = FLOOR; W = WALL; C = CEILING; T = TILT; S = SHELF



	HANDLING, ASSEMBLY, DISPENSING AND MORE															
Model	GP7	GP8	GP12	GP25	GP25-12	GP35L	GP50		GP88	GP110	GP110B	GP110H	GP165R	GP180	GP180H	GP180-120
Controller	YRC1000 YRC1000micro	YRC1000 YRC1000micro	YRC1000 YRC1000micro	YRC1000	YRC1000	YRC1000	YRC1000		YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000
MLX300 Software Option	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
XP† INCREASED IP PROTECTION (OPTION)	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓			✓		✓
Food Grade Grease (OPTION)	✓	✓	✓	✓			✓									
Mounting	F, W, C, T	F, W, C, T	F, W, C, T	F, W, C, T	F, W, C, T	F, W, C, T	F, W, C, T		F, W, C, T	F	F	F	S	F	F	F
Degrees of Freedom	6	6	6	6	6	6	6		6	6	7	6	6	6	6	6
Payload	7 kg	8 kg	12 kg	25 kg	12 kg	35 kg	50 kg		88 kg	110 kg	110 kg	110 kg	165 kg	180 kg	180 kg	120 kg
Vertical Reach	1,693 mm	1,312 mm	2,511 mm	3,089 mm	3,649 mm	4,449 mm	3,578 mm		3,751 mm	3,751 mm	3,792 mm	3,367 mm	4,782 mm	3,393 mm	3,393 mm	4,105 mm
Horizontal Reach	927 mm	727 mm	1,440 mm	1,730 mm	2,010 mm	2,538 mm	2,061 mm		2,236 mm	2,236 mm	2,236 mm	2,044 mm	3,140 mm	2,702 mm	2,702 mm	3,058 mm
Repeatability	±0.03 mm	±0.02 mm	±0.06 mm	±0.06 mm	±0.08 mm	±0.07 mm	±0.07 mm		±0.07 mm	±0.07 mm	±0.12 mm	±0.2 mm	±0.2 mm	±0.2 mm	±0.2 mm	±0.2 mm
Maximum Motion Range																
S-Axis (Turning/Sweep)	±170°	±170°	±170°	±180°	±180°	±180°	±180°		±180°	±180°	±180°	±180°	±180°	±180°	±180°	±180°
L-Axis (Lower Arm)	+145°/-65°	+150°/-65°	+155°/-90°	+155°/-105°	+155°/-105°	+135°/-90°	+135°/-90°		+155°/-90°	+155°/-90°	+155°/-45°	+155°/-90°	+80°/-130°	+76°/-60°	+76°/-60°	+76°/-60°
U-Axis (Upper Arm)	+255°/-116°	+255°/-113°	+150°/-85°	+160°/-86°	+160°/-86°	+206°/-80°	+206°/-80°		+90°/-80°	+90°/-80°	+90°/-70°	+90°/-86°	+78°/-79.4°	+90°/-86°	+90°/-86°	+90°/-86°
R-Axis (Wrist Roll)	±190°	±190°	±200°	±200°	±200°	±360°	±360°		±360°	±360°	±360°	±360°	±360°	±210°	±360°	±360°
B-Axis (Bend/Pitch/Yaw)	±135°	±135°	±150°	±150°	±150°	±125°	±125°		±125°	±125°	±125°	±130°	±130°	±130°	±130°	±130°
T-Axis (Wrist Twist)	±360°	±360°	±455°	±455°	±455°	±360°	±360°		±360°	±360°	±360°	±360°	±360°	±360°	±360°	±360°
7th-Axis	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	E: +120°/-45°	n/a	n/a	n/a	n/a	n/a
Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Maximum Speed																
S-Axis	375°/s	455°/s	260°/s	210°/s	210°/s	180°/s	180°/s		170°/s	140°/s	140°/s	140°/s	105°/s	125°/s	120°/s	125°/s
L-Axis	315°/s	385°/s	230°/s	210°/s	210°/s	140°/s	178°/s		140°/s	110°/s	110°/s	115°/s	105°/s	115°/s	97°/s	115°/s
U-Axis	410°/s	520°/s	260°/s	265°/s	220°/s	178°/s	178°/s		160°/s	130°/s	130°/s	161°/s	105°/s	125°/s	115°/s	125°/s
R-Axis	550°/s	550°/s	470°/s	420°/s	435°/s	250°/s	250°/s		230°/s	175°/s	175°/s	225°/s	182°/s	150°/s	182°/s	182°/s
B-Axis	550°/s	550°/s	470°/s	420°/s	435°/s	250°/s	250°/s		230°/s	175°/s	175°/s	200°/s	150°/s	175°/s	150°/s	175°/s
T-Axis	1,000°/s	1,000°/s	700°/s	885°/s	700°/s	360°/s	360°/s		350°/s	255°/s	255°/s	315°/s	240°/s	265°/s	230°/s	265°/s
7th-Axis	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	E: 110°/s	n/a	n/a	n/a	n/a	n/a
Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Approximate Mass	34 kg	32 kg	130 kg	250 kg	260 kg	600 kg	570 kg		630 kg	660 kg	790 kg	730 kg	1,760 kg	1,020 kg	1,090 kg	1,090 kg
Power Rating	1 kVa	1 kVa	1.5 kVa	2 kVa	2 kVa	4.5 kVa	4.5 kVa		4 kVa	5 kVa	5 kVa	5 kVa	5 kVa	5 kVa	5 kVa	5 kVa
Allowable Moment																
R-Axis	17 N•m	17 N•m	22 N•m	52 N•m	22 N•m	147 N•m	216 N•m		408 N•m	721 N•m	721 N•m	721 N•m	921 N•m	1,000 N•m	1,000 N•m	883 N•m
B-Axis	17 N•m	17 N•m	22 N•m	52 N•m	22 N•m	147 N•m	216 N•m		408 N•m	721 N•m	721 N•m	721 N•m	921 N•m	1,000 N•m	1,000 N•m	883 N•m
T-Axis	10 N•m	10 N•m	9.8 N•m	32 N•m	9.8 N•m	78 N•m	147 N•m		206 N•m	294 N•m	294 N•m	315 N•m	490 N•m	618 N•m	618 N•m	520 N•m
Allowable Moment of Inertia																
R-Axis	0.5 kg•m ²	0.5 kg•m ²	0.65 kg•m ²	2.3 kg•m ²	0.65 kg•m ²	10 kg•m ²	28 kg•m ²		30 kg•m ²	60 kg•m ²	60 kg•m ²	85 kg•m ²	85 kg•m ²	90 kg•m ²	104 kg•m ²	79 kg•m ²
B-Axis	0.5 kg•m ²	0.5 kg•m ²	0.65 kg•m ²	2.3 kg•m ²	0.65 kg•m ²	10 kg•m ²	28 kg•m ²		30 kg•m ²	60 kg•m ²	60 kg•m ²	85 kg•m ²	85 kg•m ²	90 kg•m ²	104 kg•m ²	79 kg•m ²
T-Axis	0.2 kg•m ²	0.2 kg•m ²	0.17 kg•m ²	1.2 kg•m ²	0.17 kg•m ²	4 kg•m ²	11 kg•m ²		11 kg•m ²	33.7 kg•m ²	33.7 kg•m ²	45 kg•m ²	45 kg•m ²	46.3 kg•m ²	52 kg•m ²	40 kg•m ²

† CONTACT YASKAWA MOTOMAN FOR AVAILABILITY OF XP ROBOT MODELS
MOUNTING: F = FLOOR; W = WALL; C = CEILING; T = TILT; S = SHELF

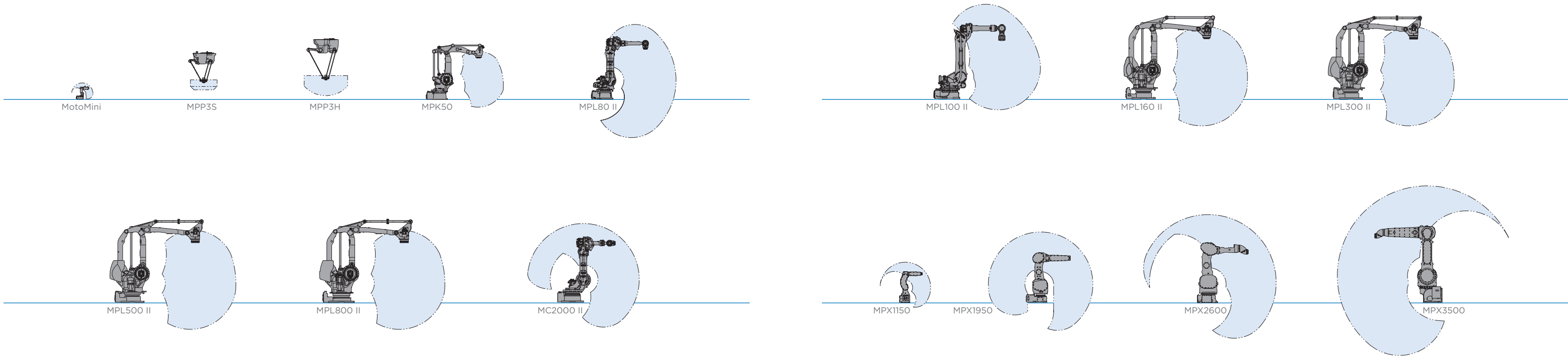
N/A = NOT APPLICABLE
TECHNICAL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



	HANDLING, ASSEMBLY, DISPENSING AND MORE										PRESS TENDING		ACTUATOR-BASED		COLLABORATIVE		
Model	GP200R	GP215	GP225	GP225H	GP250	GP280	GP400	GP400R		GP600	MH900	PH130RF	PH200RF	SDA10 ^o DUAL ARM	SIA10 ^o SINGLE ARM	HC10	HC10DT
Controller	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000	YRC1000		YRC1000	DX200	YRC1000	YRC1000	FS100	FS100	YRC1000	YRC1000micro
MLX300 Software Option	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓				
XP† INCREASED IP PROTECTION (OPTION)		✓	✓		✓	✓	✓			✓				✓			
Food Grade Grease (OPTION)																	
Mounting	S	F	F	F	F	F	F	S		F	F	S	S	F	F, W, C, T	F, W, C, T	F, W, C, T
Degrees of Freedom	6	6	6	6	6	6	6	6		6	6	6	6	15	7	6	6
Payload	200 kg	215 kg	225 kg	225 kg	250 kg	280 kg	400 kg	400 kg		600 kg	900 kg	130 kg	200 kg	10 kg PER ARM	10 kg	10 kg	10 kg
Vertical Reach	4,782 mm	3,894 mm	3,393 mm	3,393 mm	3,490 mm	2,962 mm	2,898 mm	4,908 mm		2,898 mm	6,209 mm	4,151 mm	2,629 mm	1,440 mm	1,203 mm	1,200 mm MAX. WORKING RANGE	1,200 mm MAX. WORKING RANGE
Horizontal Reach	3,140 mm	2,912 mm	2,702 mm	2,702 mm	2,710 mm	2,446 mm	2,942 mm	3,518 mm		2,942 mm	4,683 mm	3,474 mm	3,505 mm	720 mm PER ARM 1,970 mm P-POINT TO P-POINT	720 mm		
Repeatability	±0.2 mm	±0.2 mm	±0.2 mm	±0.2 mm	±0.2 mm	±0.2 mm	±0.3 mm	±0.5 mm		±0.3 mm	±0.5 mm	±0.3 mm	±0.5 mm	±0.1 mm	±0.1 mm	±0.1 mm	±0.1 mm
Maximum Motion Range																	
S-Axis (Turning/Sweep)	±180°	±180°	±180°	±180°	±180°	±180°	±180°	±150°		±180°	±165°	±180°	±150°	±180°	±180°	±180°	±180°
L-Axis (Lower Arm)	+80°/-130°	+76°/-60°	+76°/-60°	+76°/-60°	+76°/-60°	+76°/-60°	+61°/-55°	+20°/-122°		+61°/-55°	+100°/-60°	+70°/-130°	+25°/-122°	±110°	±110°	±180°	±180°
U-Axis (Upper Arm)	+78°/-78.4°	+197°/-77.8°	+90°/-86°	+90°/-86°	+197°/-77.8°	+197°/-77.8°	+18°/-113°	+120°/-9°		+18°/-113°	+35°/-130°	+95°/-70°	+53°/-70°	±135°	±135°	+355°/-5°	+355°/-5°
R-Axis (Wrist Roll)	±360°	±360°	±360°	±360°	±360°	±360°	±360°	±360°		±360°	±360°	±360°	±360°	±180°	±180°	±180°	±180°
B-Axis (Bend/Pitch/Yaw)	±125°	±125°	±125°	±130°	±125°	±125°	±115°	±120°		±115°	±120°	±130°	±120°	±110°	±110°	±180°	±180°
T-Axis (Wrist Twist)	±360°	±360°	±360°	±360°	±360°	±360°	±360°	±360°		±360°	±360°	±360°	±360°	±180°	±180°	±180°	±180°
7th-Axis	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	E: ±170°	E: ±170°	n/a	n/a
Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	ROTATION: ±170°	n/a	n/a	n/a
Maximum Speed																	
S-Axis	90°/s	100°/s	120°/s	120°/s	100°/s	90°/s	102°/s	80°/s		82°/s	45°/s	110°/s	90°/s	170°/s	170°/s	130°/s	130°/s
L-Axis	85°/s	90°/s	97°/s	97°/s	90°/s	80°/s	97°/s	80°/s		82°/s	30°/s	110°/s	90°/s	170°/s	170°/s	130°/s	130°/s
U-Axis	85°/s	97°/s	115°/s	115°/s	97°/s	90°/s	97°/s	80°/s		82°/s	30°/s	110°/s	90°/s	170°/s	170°/s	180°/s	180°/s
R-Axis	120°/s	120°/s	145°/s	150°/s	120°/s	115°/s	80°/s	80°/s		80°/s	36°/s	215°/s	200°/s	200°/s	200°/s	180°/s	180°/s
B-Axis	120°/s	120°/s	145°/s	150°/s	120°/s	110°/s	80°/s	80°/s		80°/s	37°/s	180°/s	80°/s	200°/s	200°/s	250°/s	250°/s
T-Axis	190°/s	190°/s	220°/s	230°/s	190°/s	190°/s	172°/s	160°/s		162°/s	70°/s	300°/s	160°/s	400°/s	400°/s	250°/s	250°/s
7th-Axis	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	E: 170°/s	E: 170°/s	n/a	n/a
Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	ROTATION: 130°/s	n/a	n/a	n/a
Approximate Mass	1,830 kg	1,340 kg	1,080 kg	1,090 kg	1,345 kg	1,300 kg	2,840 kg	3,560 kg		3,035 kg	9,550 kg	1,560 kg	2,940 kg	220 kg	60 kg	47 kg	48 kg
Power Rating	5 kVa	5 kVa	5 kVa	5 kVa	5 kVa	5 kVa	7 kVa	7 kVa		7 kVa	35 kVa	7.5 kVa	22 kVa	2.7 kVa	1.5 kVa	1 kVa	1 kVa
Allowable Moment																	
R-Axis	1,344 N•m	1,176 N•m	1,372 N•m	1,372 N•m	1,385 N•m	1,333 N•m	2,989 N•m	1,960 N•m		3,430 N•m	14,700 N•m	735 N•m	1,274 N•m	31.4 N•m	31.4 N•m	27.4 N•m	27.4 N•m
B-Axis	1,344 N•m	1,176 N•m	1,372 N•m	1,372 N•m	1,385 N•m	1,333 N•m	2,989 N•m	1,960 N•m		3,430 N•m	14,700 N•m	735 N•m	2,156 N•m	31.4 N•m	31.4 N•m	27.4 N•m	27.4 N•m
T-Axis	715 N•m	710 N•m	735 N•m	735 N•m	735 N•m	706 N•m	1,343 N•m	833 N•m		1,764 N•m	4,900 N•m	421 N•m	0 N•m	19.6 N•m	19.6 N•m	9.8 N•m	9.8 N•m
Allowable Moment of Inertia																	
R-Axis	143 kg•m ²	317 kg•m ²	145 kg•m ²	209.8 kg•m ²	317 kg•m ²	142 kg•m ²	500 kg•m ²	150 kg•m ²		520 kg•m ²	3,000 kg•m ²	45 kg•m ²	84.5 kg•m ²	1 kg•m ²	1 kg•m ²	0.78 kg•m ²	0.78 kg•m ²
B-Axis	143 kg•m ²	317 kg•m ²	145 kg•m ²	209.8 kg•m ²	317 kg•m ²	142 kg•m ²	500 kg•m ²	150 kg•m ²		520 kg•m ²	3,000 kg•m ²	45 kg•m ²	330 kg•m ²	1 kg•m ²	1 kg•m ²	0.78 kg•m ²	0.78 kg•m ²
T-Axis	80 kg•m ²	200 kg•m ²	84 kg•m ²	162.1 kg•m ²	200 kg•m ²	79 kg•m ²	315 kg•m ²	50 kg•m ²		350 kg•m ²	2,200 kg•m ²	15 kg•m ²	80 kg•m ²	0.4 kg•m ²	0.4 kg•m ²	0.1 kg•m ²	0.1 kg•m ²

† CONTACT YASKAWA MOTOMAN FOR AVAILABILITY OF XP ROBOT MODELS
MOUNTING: F = FLOOR; W = WALL; C = CEILING; T = TILT; S = SHELF

o CONTACT YASKAWA MOTOMAN FOR VARIOUS PAYLOAD MODELS
N/A = NOT APPLICABLE
TECHNICAL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



	PICKING, PACKING, PALLETIZING										CUTTING	PAINT				
Model	MotoMini	MPP3S	MPP3H	MPK50	MPL80 II	MPL100 II	MPL160 II		MPL300 II	MPL500 II	MPL800 II	MC2000 II	MPX1150	MPX1950	MPX2600	MPX3500
Controller	YRC1000micro	FS100 MLX200	FS100 MLX200	MLX200	DX200 MLX200	DX200	DX200 MLX200		DX200 MLX200	DX200	DX200	DX200	DX200-FM	DX200-FM	DX200-FM	DX200-FM
MLX300 Software Option					✓	✓	✓		✓	✓	✓					
XP† INCREASED IP PROTECTION (OPTION)													✓	✓	✓	✓
Food Grade Grease (OPTION)	✓	✓ (STANDARD)	✓ (STANDARD)	✓ (STANDARD)	✓	✓	✓		✓							
Mounting	F, W, C, T	C	C	F	F	F	F		F	F	F	F	F, W, C	F, W, C	F, W, C	F, W, C
Degrees of Freedom	6	4	4	4	5	5	4		4	4	4	6	6	6	6	6
Payload	0.5 kg	3 kg	3 kg	50 kg	80 kg	100 kg	160 kg		300 kg	500 kg	800 kg	50 kg	5 kg	7 kg	15 kg	15 kg
Vertical Reach	495 mm	Z300 mm	Z600 mm	1,668 mm	3,291 mm	3,149 mm	3,024 mm		3,024 mm	3,024 mm	3,024 mm	3,161 mm	1,290 mm	2,730 mm	3,643 mm	5,095 mm
Horizontal Reach	350 mm	Ø800 mm	Ø1,300 mm	1,893 mm	2,061 mm	2,150 mm	3,159 mm		3,159 mm	3,159 mm	3,159 mm	2,038 mm	727 mm	1,450 mm	2,000 mm	2,700 mm
Repeatability	±0.02 mm	±0.1 mm	±0.1 mm	±0.5 mm	±0.07 mm	±0.2 mm	±0.5 mm		±0.5 mm	±0.5 mm	±0.5 mm	±0.07 mm	±0.02 mm	±0.15 mm	±0.2 mm	±0.15 mm
Maximum Motion Range																
S-Axis (Turning/Sweep)	±170°	n/a	n/a	±180°	±180°	±180°	±180°		±180°	±180°	±180°	±180°	±170° §	±170° §	±150° §	±150°
L-Axis (Lower Arm)	+90°/-85°	n/a	n/a	+80°/-35°	+135°/-90°	+76°/-60°	+90°/-45°		+90°/-45°	+90°/-45°	+90°/-45°	+135°/-90°	+120°/-80°	+140°/-100°	+130°/-65°	+140°/-65°
U-Axis (Upper Arm)	+120°/-175°	n/a	n/a	+15°/-10.5°	+35°/-160°	+40°/-147°	+15.5°/-120°		+15.5°/-120°	+15.5°/-120°	+15.5°/-120°	+235°/-158°	+90°/-70°	+235°/-62°	+150°/-65°	+90°/-65°
R-Axis (Wrist Roll)	±140°	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	±360°	±200°	±360°	±720°
B-Axis (Bend/Pitch/Yaw)	+210°/-30°	n/a	n/a	n/a	±15°	±15° †	n/a		n/a	n/a	n/a	±125°	±135°	±150°	±720°	±720°
T-Axis (Wrist Twist)	±360°	±360°	±360°	±350°	±360°	±210° †	±360°		±360°	±360°	±360°	±360°	±360°	±400°	±720°	±720°
7th-Axis	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Maximum Speed																
S-Axis	315°/s	n/a	n/a	185°/s	170°/s	125°/s	140°/s		90°/s	85°/s	65°/s	150°/s				
L-Axis	315°/s	n/a	n/a	160°/s	170°/s	88°/s	140°/s		100°/s	85°/s	65°/s	150°/s				
U-Axis	420°/s	n/a	n/a	160°/s	170°/s	125°/s	140°/s		110°/s	85°/s	65°/s	150°/s				
R-Axis	600°/s	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	1.5 m/s MAXIMUM LINEAR SPEED	1.5 m/s MAXIMUM LINEAR SPEED	2.0 m/s MAXIMUM LINEAR SPEED	2.0 m/s MAXIMUM LINEAR SPEED	
B-Axis	600°/s	n/a	n/a	n/a	170°/s	175°/s	n/a		n/a	n/a	n/a	250°/s	250°/s	250°/s	250°/s	250°/s
T-Axis	600°/s	1,400°/s	1,400°/s	374°/s	350°/s	265°/s	305°/s		195°/s	195°/s	125°/s	250°/s	250°/s	250°/s	250°/s	250°/s
7th-Axis	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Other	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Approximate Mass	7 kg	95 kg	115 kg	670 kg	550 kg	950 kg	1,700 kg		1,820 kg	2,300 kg	2,550 kg	845 kg	57 kg	265 kg	485 kg	590 kg
Power Rating	0.5 kVa	1.5 kVa	1.5 kVa	6 kVa	DX200/MLX300: 4 kVa MLX200: 6 kVa	8 kVa	DX200/MLX300: 9.5 kVa MLX200: 10 kVa		DX200/MLX300: 9.5 kVa MLX200: 10 kVa	8 kVa	8 kVa	3.5 kVa	1 kVa	2.5 kVa	3 kVa	3 kVa
Allowable Moment																
R-Axis	0.42 N•m	n/a	n/a	S: 12 N•m	n/a	n/a	n/a		n/a	n/a	n/a	110 N•m	12 N•m	19.6 N•m	93.2 N•m	93.2 N•m
B-Axis	0.42 N•m	n/a	n/a	L: 13 N•m	78.4 N•m	196 N•m	n/a		n/a	n/a	n/a	110 N•m	12 N•m	19.6 N•m	58.8 N•m	58.8 N•m
T-Axis	0.37 N•m	2.94 N•m	2.94 N•m	U: 7 N•m	20.5 N•m	0 N•m	n/a		n/a	n/a	n/a	55 N•m	7 N•m	9.8 N•m	19.6 N•m	19.6 N•m
Allowable Moment of Inertia																
R-Axis	0.00378 kg•m²	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	7 kg•m²	0.3 kg•m²	0.6 kg•m²	3.75 kg•m²	3.75 kg•m²
B-Axis	0.00378 kg•m²	n/a	n/a	n/a	16 kg•m²	88 kg•m²	n/a		n/a	n/a	n/a	7 kg•m²	0.3 kg•m²	0.6 kg•m²	2.225 kg•m²	2.225 kg•m²
T-Axis	0.00299 kg•m²	0.017 kg•m²	0.017 kg•m²	5.5 kg•m²	6.1 kg•m²	55 kg•m²	80 kg•m²		140 kg•m²	200 kg•m²	550 kg•m²	1 kg•m²	0.1 kg•m²	0.16 kg•m²	0.20 kg•m²	0.20 kg•m²

† CONTACT YASKAWA MOTOMAN FOR AVAILABILITY OF XP ROBOT MODELS

‡ MOTION RANGE LIMITED BY CABLING FLANGE

MOUNTING: F = FLOOR; W = WALL; C = CEILING; T = TILT; S = SHELF

§ WALL MOUNTED ±90°

N/A = NOT APPLICABLE

TECHNICAL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

ROBOT CONTROLLERS



The **YRC1000** is compact, fast and precise. It is built to a global standard and does not require a transformer for input voltages ranging from 380VAC to 480VAC. The YRC1000 features integrated machine and functional safety for simplified setup.



The smallest robot controller in its class, the ultra-compact **YRC1000micro** minimizes installation space and optimizes performance with power and precision. Ideal for factories with high density layouts, the YRC1000micro can be installed in a vertical or horizontal position, or in a 19-inch rack.



The powerful, energy-efficient **DX200** controller delivers application flexibility and high reliability. Patented multiple robot control (up to 8 robots/72 axes) with coordinated motion between devices optimizes productivity. Leading functional safety ensures operator safety.

Model	YRC1000	YRC1000micro	DX200
Dimensions	598 mm x 499 mm x 427 mm	425 mm x 125 mm x 280 mm	800 mm x 1,000 mm x 650 mm
Approximate Mass	70 kg max.	10.5 kg	150-250 kg
Ambient Temperature	During operation: 0° to 45° C Storage: -10° to 60° C	During operation: 0° to 40° C Storage: -10° to 60° C	During operation: 0° to 45° C
Humidity	90% max. non-condensing	90% max. non-condensing	90% max. non-condensing
Primary Power Requirements	Three-phase, 380/480 VAC (+10%, -15%), 50/60 Hz (±2%)	Single-phase: 200/230 VAC (+10%, -15%), 50/60 Hz (±2%) Three-phase: 200/220 VAC (+10%, -15%), 50/60 Hz (±2%)	Three-phase, 240/480/575 VAC at 50/60 Hz
I/O Options	Digital I/O: 4,096 inputs and 4,096 outputs NPN - Standard: 40 inputs/40 outputs consisting of 24 user inputs/24 user outputs PNP - Optional: 32 transistor outputs; 8 relay outputs max. I/O	Specialized signals: 7 inputs and 1 output General signals: 8 inputs and 8 outputs (8 transistor outputs)	Digital I/O: 4,096 inputs and 4,096 outputs NPN - Standard: 40 inputs/40 outputs consisting of 24 user inputs/24 user outputs PNP - Optional: 32 transistor outputs; 8 relay outputs max. I/O
Interface	RS-232C/RS422: 1 ch	n/a	Ethernet (10 BASE-T / 100 BASE-TX)
Multiple Robot Control	Ability to control up to 8 robots/72 axes (not applicable for collaborative robots)	n/a	Ability to control up to 8 robots/72 axes
Programming Language	INFORM III, menu-driven programming	INFORM III, menu-driven programming	INFORM III, menu-driven programming
Safety Specs	Category 3 PLc Meets ANSI/RIA R15.06-2012 and CSA Z434-03 Controller safety-rated emergency stop and safety gate inputs Programming pendant includes: safety-rated emergency stop pushbutton, 3-position enable switch with key-lock and manual brake release built into programming pendant	Category 3 PLc Meets ANSI/RIA R15.06-2012 and CSA Z434-03 Controller safety-rated emergency stop and safety gate inputs Programming pendant includes: safety-rated emergency stop pushbutton, 3-position enable switch with key-lock and manual brake release built into programming pendant	Category 4 PLc Meets ANSI/RIA 15.06-2012 and CSA Z434-03 Controller safety-rated emergency stop and safety gate inputs Programming pendant includes: safety-rated emergency stop pushbutton, 3-position enable switch with key-lock and manual brake release built into programming pendant
Functional Safety Unit	Category 3 (PLd SIL2) Robot range limiting (32 zones), speed limiting, tool change monitoring, tool angle monitoring, axis range limiting, axis speed monitoring, 3D graphic pendant set-up	Category 3 (PLd SIL2) Robot range limiting (32 zones), speed limiting, tool change monitoring, tool angle monitoring, axis range limiting, axis speed monitoring, 3D graphic pendant set-up	Category 3 (PLd SIL2) Robot range limiting (32 zones), speed limiting, tool change monitoring, tool angle monitoring, axis range limiting, axis speed monitoring, graphic pendant set-up
Protection Rating	IP54 (duct fan is IP2X)	IP20	IP54
Standard Software Features	Arm interference, collision detection, machine lock and safety interlock	Arm interference, collision detection, machine lock and safety interlock	Arm interference, collision detection, machine lock and safety interlock
Pendant Dimensions	152 mm x 299 mm x 53 mm	152 mm x 299 mm x 53 mm	169 mm x 314.5 mm x 50 mm
Pendant Display	5.7-inch full-color touchscreen, 640 x 480 (VGA)	5.7-inch full-color touchscreen, 640 x 480 (VGA)	5.7-inch full-color touchscreen, 640 x 480 (VGA)
Pendant Weight	0.73 kg	0.73 kg	0.998 kg
Pendant O/S	Windows® Embedded Compact 7	Windows® Embedded Compact 7	Windows® CE
Windows® Menu-Driven Interface	User-selectable touchscreen menu, multiple windows supported	User-selectable touchscreen menu, multiple windows supported	User-selectable touchscreen menu, multiple windows supported
Backup Media	One SD card slot; one USB port (2.0)	One SD card slot; one USB port (2.0)	One compact Flash slot; one USB port (1.1)
Protection Rating	IP54	IP54	IP65
Self-Diagnostics	Classifies errors and major/minor alarms and displays data; monitors reducers for predictive wear; alerts when major power components reach design life	Classifies errors and major/minor alarms and displays data; monitors reducers for predictive wear; alerts when major power components reach design life	Classifies errors and major/minor alarms and displays data; monitors reducers for predictive wear; alerts when major power components reach design life
Alarm Display	Alarm messages; alarm history provides instruction of how to repair fault	Alarm messages; alarm history provides instruction of how to repair fault	Alarm messages; alarm history provides instruction of how to repair fault
I/O Diagnostics	Permits simulated enabled/disabled input/output	Permits simulated enabled/disabled input/output	Permits simulated enabled/disabled input/output
TCP Calibration	Automatically calibrates parameters for end-effectors, optional TCP recovery function	Automatically calibrates parameters for end-effectors, optional TCP recovery function	Automatically calibrates parameters for end-effectors, optional TCP recovery function
Tool Weight Calibration	Automatically calibrates tool weight, center of gravity and inertia for peak performance	Automatically calibrates tool weight, center of gravity and inertia for peak performance	Automatically calibrates tool weight, center of gravity and inertia for peak performance

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MLX300 Software Option Robot and PLC integration

- Program in PLC environment; knowledge of robot programming language is minimized
- Single programming language for entire system
- Easy-to-use library of function blocks and sample programs
- Compatible with multiple HMIs
- Supports peripheral functions such as vision and conveyor tracking

Smart Pendant Next generation of robot programming

Yaskawa's Smart Pendant radically changes the way a robot is programmed. Featuring a 10-inch touchscreen with an easy-to-use tablet-based interface, Smart Pendant is ideal for novice robot users. Its patented, built-in Smart Frame technology eliminates the use of coordinate frames; the robot adapts to the user's position.



- Fast, simple learning curve
- Easy-to-understand operation; intuitive format
- Simplified INFORM programming supports powerful controller functionality
- Reduced programming time results in fast and efficient implementation of robot systems

YASKAWA

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YASKAWA ROBOTS CAN BE USED FOR A WIDE VARIETY OF APPLICATIONS INCLUDING ARC AND SPOT WELDING, ASSEMBLY AND KITTING, CUTTING (LASER, PLASMA, ULTRASONIC, WATERJET), DISPENSING, INSPECTION, MATERIAL REMOVAL, PAINTING AND STEM EDUCATION. THESE ROBOTS CAN ALSO BE USED FOR HANDLING APPLICATIONS SUCH AS PICKING, PACKING, PALLETIZING, INJECTION MOLDING, LOAD/UNLOAD, MACHINE TENDING, PART TRANSFER, PRESS TENDING AND SORTING. PLEASE CONSULT YASKAWA MOTOMAN TO CONVERT ROBOT MODEL FROM PRIMARY APPLICATION.