

INTELLIGENT MANUFACTURING EXPERT EFORT

STOCK CODE 688165

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Creating intelligent equipment intelligently, Liberating human productivity.

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OFFICIAL ACCOUNT



EFORT ROBOT SELECTION GUIDE

埃夫特机器人产品选型手册

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EFORT ROBOT FAMILIES

埃夫特机器人家族

EFORT

INTELLIGENT MANUFACTURING EXPERT EFORT



[SCARA]

[MINI]

[SMALL PAYLOADS]

[MEDIUM PAYLOADS]

[LARGE PAYLOADS]

[PALLETIZING]

[WELDING]

[PAINTING]

[COLLABORATIVE]



Model		ER15-1400	ER20-1100	ER12H-1600	ER12H-2000	ER15H-1400	ER15-4-1600
Controlled axes		6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	4 Axes
Max. payload on wrist		15 kg	20 kg	12 kg	12 kg	15 kg	15 kg
Repeatability		± 0.03 mm	± 0.03 mm	± 0.03 mm	± 0.03 mm	± 0.03 mm	± 0.07 mm
Robot weight		150 kg	145 kg	169 kg	185 kg	165 kg	180 kg
Reach		1420 mm	1143 mm	1604 mm	2025 mm	1479 mm	1625 mm
Robot IP grade		IP65 / IP67(Wrist)	IP65 / IP67(Wrist)	IP54 / IP67(Wrist)	IP54 / IP67(Wrist)	IP54 / IP67(Wrist)	IP54 / IP65(Wrist)
Cabinet IP grade		IP20 / IP54(Optional)	IP20 / IP54(Optional)	IP20 / IP54(Optional)	IP20 / IP54(Optional)	IP20 / IP54(Optional)	IP54
Installation		Floor, Upside-down, Wall, Angle	Floor, Upside-down, Wall, Angle	Floor, Upside-down, Wall	Floor, Upside-down, Wall	Floor, Upside-down, Wall	Floor
Maximum speed	J1	260°/sec	260°/sec	265°/sec	220°/sec	265°/sec	175°/sec
	J2	255°/sec	255°/sec	255°/sec	180°/sec	255°/sec	165°/sec
	J3	210°/sec	210°/sec	270°/sec	210°/sec	270°/sec	155°/sec
	J4	450°/sec	450°/sec	450°/sec	420°/sec	450°/sec	330°/sec
	J5	450°/sec	450°/sec	450°/sec	420°/sec	450°/sec	/
	J6	600°/sec	600°/sec	700°/sec	700°/sec	700°/sec	/
Motion range	J1	± 170°	± 170°	± 170°	± 170°	± 170°	± 165°
	J2	+90°/-160°	+83°/-160°	+85°/-150°	+77°/-160°	+85°/-150°	+40°/-85°
	J3	+175°/-85°	+175°/-85°	+175°/-85°	+175°/-85°	+175°/-85°	+100°/-70°
	J4	± 190°	± 190°	± 190°	± 190°	± 190°	± 360°
	J5	± 130°	± 130°	± 190° (The connect outside robot body.) ± 140° (The connect inside robot body.)	± 190° (The connect outside robot body.) ± 140° (The connect inside robot body.)	± 190° (The connect outside robot body.) ± 140° (The connect inside robot body.)	/
	J6	± 360°	± 360°	± 450° (The connect outside robot body.) ± 220° (The connect inside robot body.)	± 450° (The connect outside robot body.) ± 220° (The connect inside robot body.)	± 450° (The connect outside robot body.) ± 220° (The connect inside robot body.)	/
	J2+J3	/	/	/	/	/	-90° ≤ (J2+J3) ≤ +15°



Model		ER12-2100	ER25-1600	ER25-1800	ER25-2300	ER35-1900	ER50-2100	ER70-1900	ER70-2100
Controlled axes		6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	6 Axes
Max. payload on wrist		12 kg	25 kg	25 kg	25 kg	35 kg	50 kg	70 kg	70 kg
Repeatability		±0.05 mm	±0.05 mm	±0.05 mm	±0.05 mm	±0.05 mm	±0.06 mm	±0.06 mm	±0.06 mm
Robot weight		165 kg	172 kg	175 kg	315 kg	275 kg	550 kg	545 kg	550 kg
Reach		2051 mm	1660 mm	1850 mm	2295 mm	1875 mm	2146 mm	1901 mm	2146 mm
Robot IP grade		IP54 / IP67(Wrist)	IP54 / IP67(Wrist)	IP54 / IP67(Wrist)	IP54 / IP67(Wrist)	IP54 / IP67(Wrist)	IP54 / IP67(Wrist)	IP54 / IP67(Wrist)	IP54 / IP67(Wrist)
Cabinet IP grade		IP20 / IP54(Optional)	IP20 / IP54(Optional)	IP20 / IP54(Optional)	IP20 / IP54(Optional)	IP20 / IP54(Optional)	IP54	IP54	IP54
Installation		Floor, Upside-down, Wall	Floor, Upside-down, Wall	Floor, Upside-down, Wall	Floor, Upside-down, Wall	Floor, Upside-down, Wall	Floor	Floor	Floor
Maximum speed	J1	220°/sec	220°/sec	220°/sec	190°/sec	190°/sec	170°/sec	210°/sec	190°/sec
	J2	180°/sec	180°/sec	180°/sec	190°/sec	190°/sec	170°/sec	160°/sec	150°/sec
	J3	200°/sec	200°/sec	200°/sec	200°/sec	200°/sec	170°/sec	190°/sec	186°/sec
	J4	360°/sec	360°/sec	360°/sec	350°/sec	350°/sec	270°/sec	310°/sec	300°/sec
	J5	420°/sec	360°/sec	360°/sec	360°/sec	350°/sec	270°/sec	270°/sec	280°/sec
	J6	600°/sec	410°/sec	410°/sec	410°/sec	400°/sec	365°/sec	400°/sec	400°/sec
Motion range	J1	± 170°	± 170°	± 170°	± 173°	± 173°	± 180°	± 180°	± 180°
	J2	+77°/-160°	+77°/-160°	+77°/-160°	+105°/-141°	+105°/-141°	+70°/-130°	+70°/-130°	+70°/-130°
	J3	+165°/-85°	+165°/-85°	+165°/-85°	+200°/-78°	+200°/-78°	+175°/-80°	+175°/-80°	+175°/-80°
	J4	± 190°	± 190°	± 190°	± 190°	± 190°	± 360°	± 360°	± 360°
	J5	± 120°	± 130°	± 130°	± 130°	± 130°	± 115°	± 115°	± 115°
	J6	± 360°	± 360°	± 360°	± 360°	± 360°	± 450°	± 450°	± 450°



Model		ER130-4-2800	ER180-4-3200	ER150-2700	ER150-3200	ER210-2700
Controlled axes		4 Axes	4 Axes	6 Axes	6 Axes	6 Axes
Max. payload on wrist		130 kg	180 kg	150 kg	150 kg	210 kg
Repeatability		±0.1 mm	±0.1 mm	±0.1 mm	±0.2 mm	±0.1 mm
Robot weight		970 kg	1350 kg	1110 kg	1150 kg	1110 kg
Reach		2816 mm	3160 mm	2674 mm	3192 mm	2674 mm
Robot IP grade		IP54 / IP65(Optional)	IP54 / IP65(Optional)	IP65	IP65	IP65
Cabinet IP grade		IP54	IP54	IP54	IP54	IP54
Installation		Floor	Floor	Floor	Floor	Floor
Maximum speed	J1	110°/sec	104°/sec	110°/sec	100°/sec	100°/sec
	J2	110°/sec	104°/sec	100°/sec	90°/sec	90°/sec
	J3	105°/sec	104°/sec	105°/sec	85°/sec	85°/sec
	J4	330°/sec	210°/sec	120°/sec	105°/sec	109°/sec
	J5	/	/	110°/sec	100°/sec	105°/sec
	J6	/	/	220°/sec	195°/sec	200°/sec
Motion range	J1	± 180°	± 180°	± 180°	± 180°	± 180°
	J2	+42°/-85°	+40°/-86°	+60°/-80°	+60°/-80°	+60°/-80°
	J3	+85°/-55°	+60°/-52°	+90°/-83°	+90°/-83°	+90°/-83°
	J4	± 360°	± 360°	± 360°	± 360°	± 360°
	J5	/	/	± 120°	± 120°	± 120°
	J6	/	/	± 360°	± 360°	± 360°
	J2+J3	-115° < (J2+J3) < +20°	-106° < (J2+J3) < +23°	/	/	/



COLLABORATIVE



WELDING



PAINTING

Model		ECR5	ARC10-1600	ARC12-1400	ARC12-2000	GR630-1900	GR680-2700	GR6100-3800	GR6150-1500	GR6150-2900	GR6160-3200
Controlled axes		6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	6 Axes	6 Axes
Max. payload on wrist		5 kg	10 kg	12 kg	12 kg	3 kg	8 kg	10 kg	15 kg	15 kg	16 kg
Repeatability		±0.03 mm	±0.03 mm	±0.03 mm	±0.03 mm	±1 mm	±0.2 mm	±0.2 mm	±0.15 mm	±0.2 mm	±0.15 mm
Robot weight		20.5 kg	169 kg	165 kg	185 kg	400 kg	450 kg	920 kg	245 kg	640 kg	600 kg
Reach		928 mm	1604 mm	1479 mm	2025 mm	1929 mm	2715 mm	3750 mm	1500 mm	2900 mm	3240 mm
Robot IP grade		IP54	IP54 / IP67(Wrist)	IP54 / IP67(Wrist)	IP54 / IP67(Wrist)	IP65	IP65	IP65	IP65	IP65	IP65
Cabinet IP grade		IP40	IP54	IP54	IP54	IP52	IP54	IP54	IP54	IP54	IP54
Installation		Floor, Upside-down, Wall, Angle	Floor, Upside-down, Wall	Floor, Upside-down, Wall	Floor, Upside-down, Wall	Floor, Upside-down	Floor, Upside-down, Wall(Optional)	Floor, Upside-down	Floor, Upside-down, Wall, Angle	Floor, Upside-down, Wall(Optional)	Floor
Maximum speed	J1	150°/sec	265°/sec	265°/sec	220°/sec	120°/sec	150°/sec	130°/sec	180°/sec	120°/sec	140°/sec
	J2	150°/sec	255°/sec	255°/sec	180°/sec	120°/sec	145°/sec	150°/sec	180°/sec	120°/sec	140°/sec
	J3	150°/sec	270°/sec	270°/sec	210°/sec	120°/sec	150°/sec	150°/sec	180°/sec	120°/sec	165°/sec
	J4	180°/sec	450°/sec	450°/sec	420°/sec	540°/sec	500°/sec	600°/sec	360°/sec	360°/sec	500°/sec
	J5	180°/sec	450°/sec	450°/sec	420°/sec	540°/sec	500°/sec	600°/sec	400°/sec	420°/sec	350°/sec
	J6	180°/sec	700°/sec	700°/sec	700°/sec	540°/sec	720°/sec	720°/sec	450°/sec	530°/sec	900°/sec
Motion range	J1	±180°	±170°	±170°	±170°	±120°	±175°	±155°	±160°	±160°	±180°
	J2	±180°	+85°/-150°	+85°/-150°	+77°/-160°	±70°	+80°/-150°	+75°/-145°	±135°	±135°	+70°/-135°
	J3	±160°	+175°/-85°	+175°/-85°	+175°/-85°	+60°/-45°	+125°/-80°	+105°/-75°	+240°/-60°	+250°/-75°	+175°/-80°
	J4	±180°	±190°	±190°	±190°	±360°	±360°	±360°	±540°	±540°	±360°
	J5	±180°	±190° (The connect outside robot body.) ±140° (The connect inside robot body.)	±190° (The connect outside robot body.) ±140° (The connect inside robot body.)	±190° (The connect outside robot body.) ±140° (The connect inside robot body.)	±360°	±360°	±360°	±540°	±540°	±120°
	J6	±360°	±450° (The connect outside robot body.) ±220° (The connect inside robot body.)	±450° (The connect outside robot body.) ±220° (The connect inside robot body.)	±450° (The connect outside robot body.) ±220° (The connect inside robot body.)	±360°	±360°	±360°	±540°	±540°	±360°



Model

S-Cabinet

M-Cabinet

Main power supply	Rated voltage	Single/Three-phase AC220V ± 10%	Three-phase AC380V ± 10%
	Rated frequency	50/60 Hz	50/60 Hz
	Power capacity	Max.5 kVA	Max.8 kVA
I/O	Rated volage	DC24 V	DC24 V
	Type	PNP/NPN optional	PNP/NPN optional
	DI	16 standard, Maximum extension to 80	16 standard, Maximum extension to 80
	DO	16 standard, Maximum extension to 80	16 standard, Maximum extension to 80
Communication Protocol	LAN network port	For TCP/IP, Modbus TCP Slave, Ethernet/IP Slave, BCC communication protocols	For TCP/IP, Modbus TCP Slave, Ethernet/IP Slave, BCC communication protocols
	WAN network port	For TCP/IP, Modbus TCP Slave, Ethernet/IP Slave communication protocols	For TCP/IP, Modbus TCP Slave, Ethernet/IP Slave communication protocols
	EtherCAT network port	For expansion of external axes, expansion of gateway modules, expansion of remote IO modules	For expansion of external axes, expansion of gateway modules, expansion of remote IO modules
	F-Bus network port(Optional)	For PROFINET-IO Device Slave, PROFINET Slave communication protocols	For PROFINET-IO Device Slave, PROFINET Slave communication protocols
	CAN network port(Optional)	For CANopen, DeviceNet protocol, adaptation for welding machine communication	For CANopen, DeviceNet protocol, adaptation for welding machine communication
RS232 network port (Optional)	For serial communication protocols	For serial communication protocols	
IP grade		IP20 / IP54	IP54
Cabinet size (width × depth × heighth)		IP20: 430 × 508 × 224 (mm)	700 × 577 × 1045 (mm)
		IP54: 440 × 606 × 229 (mm)	
Cabinet weight		IP20: 25 kg	125 kg
		IP54: 28 kg	
Extension axes	Extension cadinet-IP20	Single-phase AC220V ± 10%, up to 2 extension axes, supported motor power: 1kW, 2kW	/
	Extension cadinet-IP54	Three-phase AC380V ± 10%, up to 4 extension axes, supported motor power: 1kW, 2kW, 3kW, 5kW	Three-phase AC380V ± 10%, up to 3 extension axes, supported motor power: 1kW, 2kW, 3kW, 5kW, 5.5kW

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