

ZDGT5023

INDUSTRIAL ROBOT

Robot model		ZDGT5023
Freedom		6
Position		Ground installation and suspended ceiling installation
Maximum operating speed	J1 Axis	125° /sec
	J2 Axis	110° /sec
	J3 Axis	145° /sec
	J4 Axis	276° /sec
	J5 Axis	259° /sec
	J6 Axis	274° /sec
Maximum operating range	J1 Axis	± 180°
	J2 Axis	-135° ~+100°
	J3 Axis	-80° ~+180°
	J4 Axis	± 180°
	J5 Axis	± 115°
	J6 Axis	± 360°
Maximum activity radius		2340mm
Maximum end load		50KG
Body weight		About 530kg
Allowable torque	J4	206N • m
	J5	206N • m
	J6	127N • m
Allowable moment of inertia	J4	28kg- m^2
	J5	28kg- m^2
	J6	11kg- m^2
Repeatability		± 0.08mm
Robot base size		420x620mm
Ambient temperature		0~45°C
Relative humidity		20~80%RH
Atmospheric pressure		89KPa~106KPa(Altitude below 1000m)
Vibration, impact, collision		≤0.5G
Protection grade		IP54(Wrist IP67)

● Inertia tensor of the connecting rod relative to the center of mass

Object	Base	Rotating seat components	Boom components	Small arm fixed seat components	Small arm components	Wrist
Consult	Coordinate system 0	Coordinate system 1	Coordinate system 2	Coordinate system 3	Coordinate system 4	Coordinate system 5
$I_{xx}(\text{Kgmm}^2)$	/	7.4×10^6	6.0×10^6	1.2×10^6	4.8×10^6	1.2×10^5
$I_{yy}(\text{Kgmm}^2)$	/	8.6×10^6	6.2×10^7	1.9×10^6	4.8×10^6	3.9×10^4
$I_{zz}(\text{Kgmm}^2)$	/	7.4×10^6	5.8×10^7	2.4×10^6	7.3×10^4	9.5×10^4

● Joint coupling

Joint	J1-J2	J2-J3	J3-J4	J4-J5	J4-J6	J5-J6
Coupling relationship equation (Coupling coefficient)	/	/	/	41	41	41

● Reducer parameters

Model	200C	380D	120C	80D	42D	35BX
Reducer reduction ratio	34.86	47.03	36.75	33	41	41
Comprehensive reduction ratio	142.02	162	121.06	86.88	92.7	87.35
Rated output speed(r/min)	15	15	15	15	15	15
Rated torque(N · m)	1961	3724	1176	784	412	217
Permissible torque for starting and stopping(N · m)	4900	9310	2450	1960	1029	533
Instantaneous maximum torque(N · m)	9800	18620	4900	3920	2058	1083
Moment rigidity(N · m)	8820	7050	2450	2150	1660	822
Instantaneous maximum torque(N · m)	17640	14100	4900	4300	3220	1764

● Motor parameters

Joint	J1	J2	J3	J4	J5	J6
Motor model	180	180	130	100	100	100
Rated power(kW)	4.6	4.6	1.8	1	1	1
Rated voltage(V)	380					
Rated current(A)	18	18	6.9	3.7	3.7	3.7
Rated torque(N · m)	29.2	29.2	11.5	3.18	3.18	3.18
Rated speed(r/min)	1500	1500	1500	3000	3000	3000
Maximum speed(r/min)	3000	3000	3000	4000	4000	4000
Rotor inertia(*10e-4kgm ²)	60	60	18	4.3	4.3	4.3
Line back electromotive force coefficient(V/Krpm)	111	111	110	62	62	62
Number of pole pairs	5					
Encoder	17 bit multi turn insulation value Tamagawa agreement					