

ZDFT1215

INDUSTRIAL ROBOT

Robot model		ZDFT1215
Freedom		6
Position		Ground installation and suspended ceiling installation
Maximum operating speed	J1 Axis	200° /sec
	J2 Axis	185° /sec
	J3 Axis	155° /sec
	J4 Axis	265° /sec
	J5 Axis	215° /sec
	J6 Axis	260° /sec
Maximum operating range	J1 Axis	± 180°
	J2 Axis	-125° ~+90°
	J3 Axis	-84° ~+205°
	J4 Axis	± 170°
	J5 Axis	-150° ~+116°
	J6 Axis	± 360°
Maximum activity radius		1463mm
Maximum end load		12KG
Body weight		About 116kg
Allowable torque	J4	22N • m
	J5	22N • m
	J6	9.8N • m
Allowable moment of inertia	J4	0.65kg- m^2
	J5	0.65kg- m^2
	J6	0.17kg- m^2
Repeatability		± 0.05mm
Robot base size		290x300mm
Ambient temperature		0~45℃
Relative humidity		20~80%RH
Atmospheric pressure		89KPa~106KPa(Altitude below 1000m)
Vibration, impact, collision		≤0.5G
Protection grade		IP54(Wrist IP65)

● 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
$I_{xx}(\text{Kgmm}^2)$	/	1.0×10^6	1.4×10^5	1.2×10^5	2.1×10^6	2.0×10^4
$I_{yy}(\text{Kgmm}^2)$	/	1.3×10^6	9.7×10^5	1.6×10^5	2.1×10^6	1.0×10^4
$I_{zz}(\text{Kgmm}^2)$	/	9.5×10^5	8.6×10^5	1.8×10^5	4.0×10^4	1.7×10^4

● Joint coupling

Joint	J1-J2	J2-J3	J3-J4	J4-J5	J4-J6	J5-J6
Coupling relationship equation (Coupling coefficient)	/	/	/	/	/	35

● Reducer parameters

Model	50C	42D	25D	32Harmonic	20Harmonic	FBS32
Reducer reduction ratio	32.54	105	126	50	80	30
Comprehensive reduction ratio	97.62	105	126	102	128	105
Rated output speed(r/min)	15	15	15	25	25	25
Rated torque(N • m)	490	412	245	76	25	25
Permissible torque for starting and stopping(N • m)	1225	1029	612	216	56	56
Instantaneous maximum torque(N • m)	2450	2058	1225	382	98	98
Moment rigidity(N • m)	1764	1660	784	/	/	/
Instantaneous maximum torque(N • m)	3528	3320	1568	/	/	/

● Motor parameters

Joint	J1	J2	J3	J4	J5	J6
Motor model	130	130	80	60	50	50
Rated power(kW)	2	2	0.75	0.4	0.2	0.2
Rated voltage(V)	220					
Rated current(A)	10	10	5	2.6	1.5	1.5
Rated torque(N • m)	6.36	6.36	2.38	1.27	0.63	0.63
Rated speed(r/min)	3000	3000	3000	3000	3000	3000
Maximum speed(r/min)	3200	3200	3200	4500	4500	4500
Rotor inertia(*10e-4kgm ²)	16.5	16.5	1.2	0.4	0.2	0.2
Line back electromotive force coefficient(V/Krpm)	50.5	50.5	36.2	33	30	30
Number of pole pairs	5					
Encoder	17 bit multi turn insulation value Tamagawa agreement					