

CG type		SHA25A(Motor input voltage 100V)					SHA25A(Motor input voltage 200V)					
Item	Model	50	80	100	120	160	50	80	100	120	160	
Servo Drive		REL-230-18 REL-230-36 HA-800□-6D/E-100 ¹					REL-230-18 REL-230-36 HA-800□-3D/E-200					
Max. torque ^{*1}	Nm	127	178	204	217	229	127	178	204	217	229	
	kgf·m	13	18.2	20.8	22.1	23.4	13	18.2	20.8	22.1	23.4	
Allowable continuous torque ^{*1,2}	Nm	34	57	72	81	81	40	66	81	81	81	
	kgf·m	3.5	5.8	7.3	8.2	8.2	4.1	6.8	8.2	8.2	8.2	
Max. rotational speed ^{*1}	r/min	96	60	48	40	30	112	70	56	46.7	35	
Torque constant ^{*1}	Nm/A	10.9	17.7	22	27	35	19	31	38	46	61	
	kgf·m/A	1.1	1.8	2.3	2.7	3.6	1.9	3.1	3.9	4.7	6.3	
Max. current ^{*1}	A	15.1	13.2	12.2	11.0	9.0	8.7	7.6	7.0	6.3	5.2	
Allowable continuous current ^{*1,2}	A	4.7	4.7	4.7	4.5	3.7	3.0	3.0	3.0	2.6	2.1	
EMF constant ^{*3}	V/(rpm)	1.2	2.0	2.5	3.0	4.0	2.1	3.4	4.3	5.2	6.9	
Phase resistance (20°C)	Ω	0.4					1.2					
Phase inductance	mH	1.0					3.0					
Inertia moment (without brake)	GD ² /4	kg·m ²	0.50	1.3	2.0	2.9	5.1	0.50	1.3	2.0	2.9	5.1
	J	kgf·cm·s ²	5.1	13	20	29	52	5.1	13	20	29	52
Inertia moment (with brake)	GD ² /4	kg·m ²	0.60	1.5	2.4	3.4	6.1	0.60	1.5	2.4	3.4	6.1
	J	kgf·cm·s ²	6.1	16	24	35	62	6.1	16	24	35	62
Reduction ratio	mH	50:1	80:1	120:1	1:120	160:1	50:1	80:1	120:1	1:120	160:1	
Permissible moment load	Nm	258										
	kgf·m	26.3										
Moment stiffness	Nm/rad	39.2 × 10 ⁴										
	kgf·m/arc min	11.6										
One-way positional accuracy	Sec	50	40	40	40	40	50	40	40	40	40	
Repeatability	Sec	±5										
Bi-directional positional accuracy	Sec	60	25	25	25	25	60	25	25	25	25	
Encoder type	Magnetic absolute encoder											
Single motor revolution Encoder resolution	2 ¹⁷ (131,072)											
Motor multi revolution counter	2 ¹⁶ (65,536)											
Output resolution	Pulse/rev	6,553,600	10,485,760	13,107,200	15,728,640	20,971,520	6,553,600	10,485,760	13,107,200	15,728,640	20,971,520	
Mass (without brake)	kg	3.95										
Mass (with brake)	kg	4.1										
Environmental conditions	Operating temperature: 0 to 40°C/Storage temperature: -20 to 60°C Operating humidity/storage humidity: 20 to 80%RH (no condensation) Resistance to vibration: 25 m/s ² (frequency: 10 to 400Hz)/Shock resistance: 300 m/s ² *4 No dust, no metal powder, no corrosive gas, no inflammable gas, no oil mist To be used indoors, no direct sunlight Altitude: less than 1,000 m above sea level											
Motor insulation	Insulation resistance: 100MΩ or more (by DC500V insulation tester) Dielectric strength: AC1,500V/1 min Insulation class: A											
Mounting direction	Can be installed in any direction											
Protection structure	Totally enclosed self-cooled type (IP54)											

The table shows typical output values of actuators.

*1: Typical characteristics when combined (driven by ideal sine wave) with our drivers.

*2: Value after temperature rise and saturation when the 350 x 350 x 18 [mm] aluminum radiation plate is installed.

*3: Value of phase induced voltage constant multiplied by 3.

*4: For testing conditions, refer to [1-12 Shock resistance] (P49) and [1-13 Vibration resistance] (P50).