

Short body *Mitsubishi* brushless servo motors

HC-SFS series

The HC-SFS series of Brushless servo motors have been developed specifically for use with the compact Mitsubishi MEL MR-J2S Super packaged brushless drive and offer the following key features:

- Short body design for installation in confined spaces
- Medium inertia design suitable for direct drive applications requiring peak torque ratings up to 50 Nm
- Optional slim profile planetary geared versions with peak torque ratings up to 1300 Nm
- Maintenance-free 3 phase brushless construction
- Frame sizes from 130 to 176 mm square.
- Encoder commutation facilitates Sinewave drive technology to provide smooth operation and high resolution of 131072 counts/rev.
- High thermal dissipation characteristics for cool running



Mitsi HC series servo motor dimensions:

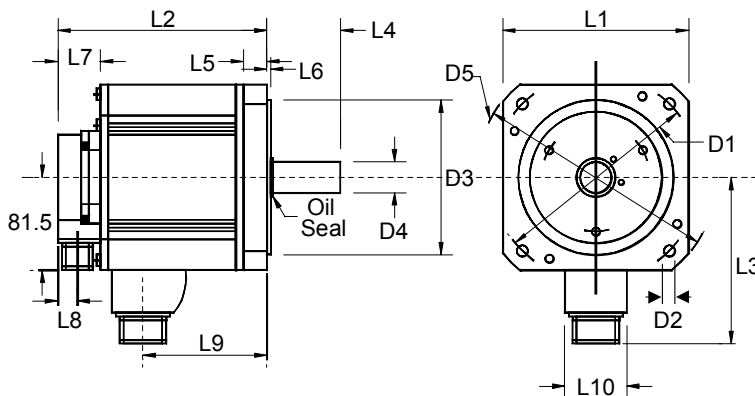


Table of Dimensions: mm.

Motor Options:		HC-SFS52	HC-SFS102	HC-SFS152	HC-SFS202	HC-SFS352
Frame Size (square)	L1		130			176
Body Length	L2	120	145	170	145	187
Body length with brake		153	178	203	193	235
Height to motor connector	L3		111			142
Shaft length	L4		55			79
Typical Flange thickness	L5		12			18
Centring Spigot Length	L6		3			3
Encoder body length	L7		39.5			39.5
Encoder connector position	L8		19.5			19.5
Motor connector position	L9	51.5	76.7	101.5	68.5	110.5
Motor connector housing	L10		41			46
Diametric measurements						
Mounting hole PCD	D1		145			200
Mounting hole diameter	D2		9			13.5
Spigot Diameter	D3		110 h7			114.3
Shaft Diameter	D4		24 h6		35 +0.010 / 0	
Diameter across corners	D5		165			230

Specification & performance using MEL-Servo MR-J2S brushless drivers

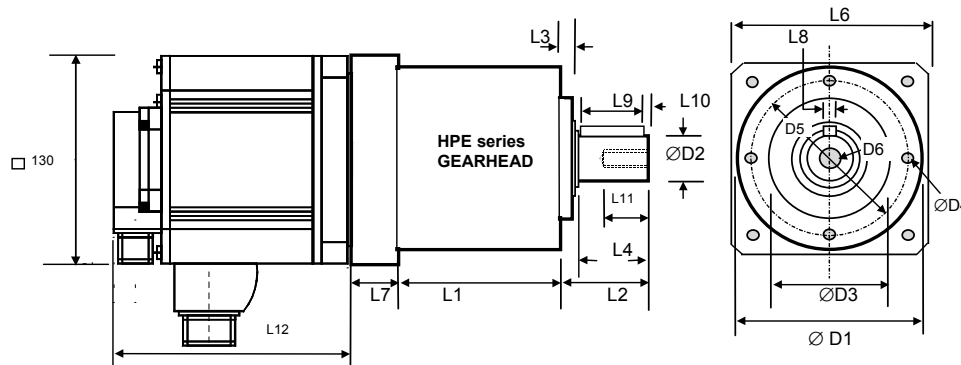
Motor Options: Matched MEL Drive		MR	HC-SF052 -J2S-60A	HC-SF102 -J2S-100A	HC-SF152 -J2S-200A	HC-SF202 -J2S-200A	HC-SF352 -J2S-350A
Rated Torque	Nm		2.39	4.78	7.16	9.55	16.7
Peak Torque	Nm		7.16	14.4	21.6	28.5	50.1
Output Power	kW		0.5	1.0	1.5	2.0	3.5
Rotor Inertia	Kgcm ²		6.6	13.7	20.0	42.5	82.0
Mass	kg		5.0	7.0	9.0	12.0	19.0
Maximum Continuous Speed			3,000 rpm			2,500 rpm	
Rated Speed			2,000 rpm			2,000 rpm	
Integral encoder			dual track, resolution: 131072 counts per rev.				
Maximum load / motor inertia match			15 times motor rotor inertia using MR-J2S Super drive				
Enclosure			totally enclosed, protected to IP65, self cooling				
Ambient temperature range			0 to + 40 deg. C				

Planetary geared brushless servo motors

HPE/HC-SFS series

- High peak torque provides high acceleration & deceleration capability
- Capable of withstanding factor 2 emergency shock loads without damage
- Low backlash construction provides accurate positioning and long life
- High torsional rigidity for stable operation in high speed positioning.
- Low torque ripple for smooth operation in velocity servo applications
- Planetary construction for high torque to volume ratio
- High reliability and serviceability

Planetary geared servo motor dimensions:



Gearhead Motor	HPE 90		HPE 120	
	HC SFS52 HC SFS102 HC SFS152	HCSF52	HC SFS152	HC SFS52 HC SFS102 HC SFS152
Gearbox Version	HPE90S	HPE90D	HPE120S	HPE120D
Gearbox Diameter	D1		90	
Output shaft diameter	D2		22 k6	
Gearbox mounting register	D3		68 h6	
Gearbox mounting holes	D4		4 M6 12 deep	
mounting hole PCD	D5		80	
Shaft fixing bolt diameter	D6		Tapped M8	
Gearbox Length	L1	80	109	106
Overall Output Shaft length	L2	46		70
Gearbox register length	L3	5		6
Free shaft length	L4	36		58
Motor flange size	L6	130		130
Adaptor length	L7	32 maximum		28
Output shaft key width	L8	6 h9		10 h9
Output shaft Key length	L9	32		50
Key distance to shaft end	L10	2		4
Shaft fixing tapped length	L11	13		22
Motor body length	L12	See motor data		

Typical performance of geared servo motor options

Gearbox Model	Gear Ratio n:1	Motor Model	Rated Speed (rpm)	Rated Torque (Nm)	Peak Torque (Nm)	Maximum Emergency Torque (Nm)	Max. Backlash (arc. min.)	Assembly Mass (Kg)
HPE 90 S	5	HC SFS52	400	12	32	32	≤ 12	9.3
		HC SFS102	400	21	68	68		11.3
	10	HC SFS152	400	32	82	102		13.3
		HC SFS52	200	24	65	65		9.3
		HC SFS102	200	40	72	135		11.3
HPE 90 D	25	HC SFS52	80	45	82	161	≤ 15	10.3
HPE120S	10	HC SFS152	200	61	180	201	≤ 12	18.2
		25	HC SFS102	80	94	210		320
	HC SFS152		80	120	210	480		20.4
	50		HC SFS52	40	75	210		302
		HC SFS102	40	120	210	480		18.4

For ultra low backlash specify Omagear HP series gearhead